

Nortel

# Optical Metro 5100/5200

## TL1 Interface, Part 4 of 4

Standard Release 8.0 Issue 1 April 2005

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### *What's inside...*

TL1 messages  
Comms module commands  
Switch module commands

### *See Part 1 for the following:*

Introducing TL1, Security and administration commands, System commands, Equipment commands, Facility commands, Cross-connect commands

### *See Part 2 for the following:*

Facility loopback commands, Protection switching commands  
Operational measurement commands, Performance monitoring commands

### *See Part 3 for the following:*

Alarm and event commands  
Environment and external control commands  
Autonomous messages  
Error codes  
Shelf backup and restore procedures

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## About this document

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### ATTENTION

This document is presented in four parts: Part 1, Part 2, Part 3, and Part 4. Each part has its own table of contents. The table of contents in Part 1 contains topics found in Part 1 only. The table of contents in Part 2 contains topics found in Part 2 only. The table of contents in Part 3 contains topics found in Part 3 only. The table of contents in Part 4 contains topics found in Part 4 only. Parts 1, 2, and 3 do not include TL1 commands for the Enhanced Trunk Switch (ETS); Part 4 contains all the TL1 commands for the ETS.

You are reading Part 4 of the *TL1 Interface*, 323-1701-190.

Part 4 of the *TL1 Interface* covers further TL1 detailed command descriptions, autonomous messages, error codes, and the shelf backup and restore procedures.

### Audience for this document

This document is for the following audience:

- planners
- provisioners
- network administrators
- transmission standard engineers
- maintenance personnel

### Optical Metro 5100/5200 library

The Optical Metro 5100/5200 library consists of the *Nortel Optical Metro 5100/5200 Technical Publications*, NT0H65AM.

### Technical Publications

The *Optical Metro 5100/5200 Nortel Technical Publications* (NTP) consist of descriptive information and procedures.

**Descriptive information**

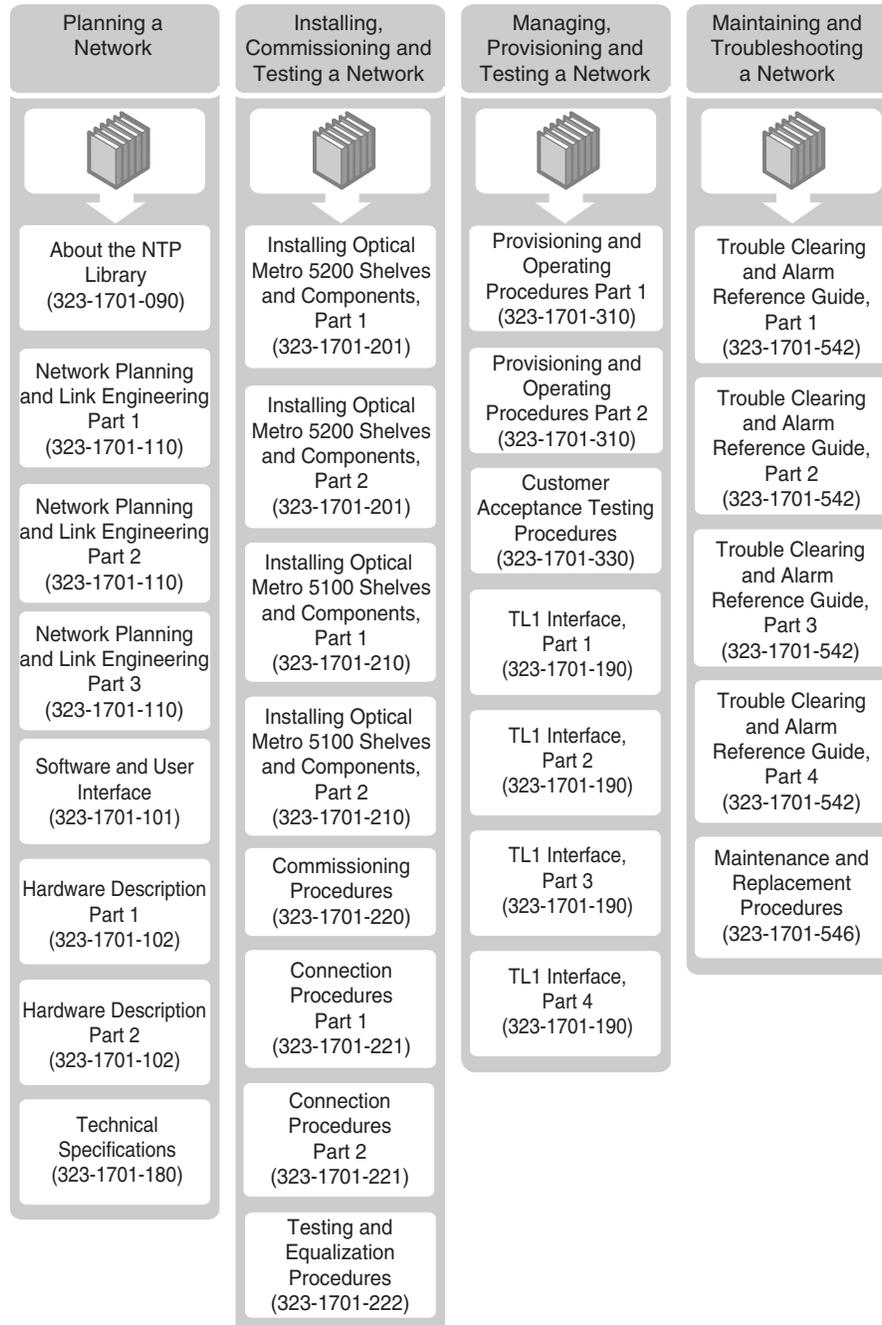
These NTPs provide detailed descriptive information about the Optical Metro 5100/5200, including system software and hardware descriptions, technical specifications, ordering information, and TL1 user information.

**Procedures**

These NTPs contain all procedures required to install, provision, and maintain the Optical Metro 5100/5200.

The following roadmap lists the documents in the Optical Metro 5100/5200 library.

OM2805p



## Technical assistance service telephone numbers

For technical support and information from Nortel Networks, refer to the following table.

<b>Technical Assistance Service</b>	
<b>For service-affecting problems:</b> For 24-hour emergency recovery or software upgrade support, that is, for: <ul style="list-style-type: none"><li>• restoration of service for equipment that has been carrying traffic and is out of service</li><li>• issues that prevent traffic protection switching</li><li>• issues that prevent completion of software upgrades</li></ul>	<b>North America:</b> 1-800-4NORTEL (1-800-466-7835)  <b>International:</b> 001-919-992-8300
<b>For non-service-affecting problems:</b> For 24-hour support on issues requiring immediate support or for 14-hour support (8 a.m. to 10 p.m. EST) on upgrade notification and non-urgent issues.	<b>North America:</b> 1-800-4NORTEL (1-800-466-7835) <b>Note:</b> You require an express routing code (ERC). To determine the ERC, see our corporate Web site at <a href="http://www.nortel.com">www.nortel.com</a> . Click on the Express Routing Codes link.  <b>International:</b> Varies according to country. For a list of telephone numbers, see our corporate Web site at <a href="http://www.nortel.com">www.nortel.com</a> . Click on the Contact Us link.
<b>Global software upgrade support:</b>	<b>North America:</b> 1-800-4NORTEL (1-800-466-7835)  <b>International:</b> Varies according to country. For a list of telephone numbers, see our corporate Web site at <a href="http://www.nortel.com">www.nortel.com</a> . Click on the Contact Us link.

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# TL1 messages

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## TL1 messages

### TL1 message overview

This section describes the TL1 message types, the common elements present in all TL1 messages, and the different responses you can receive.

### TL1 message types

There are two types of TL1 messages:

- autonomous
- non-autonomous

Each message consists of a header and a message block.

### Autonomous messages

Autonomous messages are automatically generated as a result of a condition that arises on a module.

The ETS Comms module reports four types of autonomous messages:

- CANC (Cancel)—reports a session was terminated by a timeout (inactivity on the part of the user).
- REPT^EVT (Report Event)—reports the occurrence of a non-alarmed event.
- REPT^ALM^SECU (Report Alarm Security-related)—reports the occurrence of a security-related alarmed event.
- REPT^EVT^SESSION (Report Event Session-related)—reports the occurrence of a session-related non-alarmed event.

ETS Switch module modules can generate three types of autonomous messages:

- alarms
- non-alarmed events
- protection switch activity

The module generates these messages automatically, and sends them to all users that are logged-in, provided that no user has inhibited autonomous messaging for the condition type and SECU messages have been enabled (they are disabled by default). You do not need to request information to receive autonomous messages.

For more information about autonomous messages, see [“Autonomous messages” on page 16-1](#).

**Note 1:** The ETS Comms module does not support any function that autonomously removes another module from service, or restores another module to service. Therefore, the TL1 autonomous messages REPT^RMV and REPT^RST are not supported.

**Note 2:** The Enhanced Trunk Switch Comms and Switch modules do not collect performance monitoring data, therefore the TL1 autonomous message REPT^PM is not supported.

**Non-autonomous messages**

Non-autonomous messages are sent by a module in response to a TL1 command.

The system displays all TL1 autonomous and non-autonomous messages in uppercase characters.

**TL1 response header**

A TL1 response can be identified by a two-line header.

The first two lines of all TL1 response messages have a common format.

**First line of a response header**

The first line contains the source identifier (SID) of the equipment that originally sent the message, and the date and time (YY-MM-DD and HH:MM:SS) the message was sent.

The format of the header of a normal completion or error response is:

```
^^^<rsphdr> <cr> <lf>
```

where <rsphdr> has the format:

```
<source identifier>^<date>^<time>
```

- The SID matches the TID of the module responding to the command.
- The date is in the form YY-MM-DD
- The time is expressed in terms of a 24 hour clock, and has the form HH:MM:SS.

**Second line of a response header**

The second line of the TL1 response header identifies if the response is an autonomous or a non-autonomous message.

For autonomous messages, the second line begins with an "A" for non-alarm messages or an alarm code, such as an asterisk (\*) for a minor alarm and contains a numeric alarm tag (ATAG) if applicable and contains the TL1 message type.

For non-autonomous messages the second line of a response header begins with an "M", followed by the correlation tag (CTAG) used in the original TL1 request (if applicable), and the letters COMPLD ("Completed" is the normal response), or DENY (error response) after the CTAG.

**Standard normal response**

Unless otherwise indicated in the detailed syntax description in this document, the normal, successful response format for TL1 input commands is as follows:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>;
```

**Standard error response**

If a TL1 command is not successful, the system returns a DENY response with a TL1 error. A description of the situation under which the problem occurred is reported with the error code. For a complete list, see [“Error codes” on page 18-31](#).

Unless otherwise indicated in the detailed syntax description in this document, the format of error responses is as:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^DENY <cr> <lf>
^^^<errcode> <cr> <lf>
(^^^<error description>" <cr> <lf>) *
(^^^/*error text*/ <cr> <lf>) * ;
```

**TL1 modifiers**

The ETS Switch module supports four TL1 command modifiers: EQPT, OCH, COM, and ALL. The ETS Comms module only supports three TL1 command modifiers: EQPT, COM and ALL. For more information about how these modifiers apply to individual alarms, events, and conditions, see [“Conditions \(alarms and events\)” on page 16-6](#).

- **EQPT** refers to equipment-related conditions or events that apply to a single module and not all modules in the ETS shelf, for example changing the state of a ETS Switch module from out-of-service to in-service.

- **OCH** refers to conditions or events associated with an optical channel and a specific port on a module, for example switching traffic to the other path.
- **COM** refers to shelf-level conditions or events, for example a power failure. It is not specific to the ETS Comms module.
- **ALL** refers to all modifiers: EQPT, OCH and COM.

## TL1 interface to network elements

### Command structure

TL1 command syntax has a rigid structure that follows these rules.

- All commands begin with a verb, followed by a hyphen, and a modifier, for example ED-EQPT (Edit-Equipment), or RTRV-ALM (Retrieve-Alarm).
- A second hyphen and a secondary modifier can follow the first, for example RTRV-ALM-EQPT (Retrieve-Alarm-Equipment).
- The <tid> is next, usually followed by the <aid> and <ctag> fields.
- The <ctag> may be followed by a general block containing additional parameters needed for the command.

```
VERB-MODIFIER:<tid>:<aid>:<ctag>::parameter-list;
```

*Note:* The order of <aid>, <ctag>, and additional parameters can vary from one command group to another. See the detailed command descriptions in this manual, for specific information.

### <TID> Target Identifier format

A Target Identifier is a string of 20 or fewer characters consisting of letters, numbers, and symbols, other than \ (backslash) and " (double-quotes).

### <CTAG> Correlation Tag format

The TL1 interface requires a sequential command identifier, called a correlation tag (CTAG), with every command issued. The CTAG correlates the input command to the result of the command.

The format of the CTAG is alphanumeric and can be up to six characters in length. The user assigns an arbitrary CTAG to the <ctag> field in the command and the module copies this value to the appropriate field in its responses, including confirmation, failed and syntax error messages, and retrieved report. The CTAGs in the commands received by a module need not be unique. The value of the CTAG can be :

- A TL1 identifier
- A non-zero decimal number (maximum length: 6 characters)

The system returns the CTAG with all response messages, including confirmation, failed and syntax error messages, and retrieved reports. The system does not return the CTAG with autonomous messages.

**<AID> Access Identifier format**

This section defines the access identifier (AID) format for all modules. The AID identifies a specific equipment unit or optical port that is the target of the TL1 command.

ETS Comms and Switch modules do not support listing and ranging of AIDs. In general one, and only one, AID is valid in most TL1 commands. Some commands are exceptions, and can interpret a blank <aid>, or the word "ALL" as referring to all <aid>s.

See specific detailed command descriptions for these exceptions.

Access identifiers for modules use the following format:

```
<shelf number>-<slot number>[-<port number>[-F
[-<port number>]]]
```

<shelf number> is a provision for future growth of the system, when more than one ETS shelf is managed by a single ETS Comms module.

*Note:* Currently, the <shelf number> must always be "1".

- **<slot number>** refers to the slot in which the module is mounted, (**C** (for the left slot A), **2** (for the right slot B)).

*Note:* In the ETS Shelf module, slot **C** supports only the ETS Comms module (left slot A on the ETS shelf). No other module should be installed in this slot.

**Table 16-1**  
**ETS Shelf slot designations**

ETS Module	Designation
Comms module	<b>C</b> (left slot)
Switch module	<b>2</b> (right slot)

- **<port number>** is an optional parameter that refers to an optical port on a module, and is only required when the TL1 command is directed to a specific port.

**Table 16-2**  
**ETS Switch module port designations**

Product	Port Description	Designation
ETS Switch module	Primary port	1
	Secondary port	2

**Table 16-3**  
**AID format**

Modifier	AID format
EQPT	<shelf number>-<slot number>:1-(C,2)
OCH	<shelf number>-<slot number>-<port number>:1-2-(1,2)
COM	<shelf number>-<slot number>:1-(C, 2)
ALL	All valid AIDs are acceptable

### Conditions (alarms and events)

Each condition has an associated notification code. The possible notification code values are:

- CR (Critical)
- MJ (Major)
- MN (Minor)
- NA (Not Alarmed)
- NR (Not Reported)

#### Alarmed events

Alarmed events are conditions with a CR, MJ, or MN notification code. The system reports alarms in response to either a RTRV-ALM or RTRV-COND command, and autonomously as a REPT^ALM message (if autonomous messaging is enabled). By definition, all alarms are standing conditions (SC), which are followed by an associated "clear" message when the condition ceases to exist. When a standing condition clears, it is no longer reported in response to a RTRV-ALM or RTRV-COND command.

#### Non-alarmed events

Non-alarmed events are conditions with an NA notification code. The system reports non-alarmed events in response to a RTRV-COND command, and autonomously as a REPT^EVT message (if autonomous messaging is enabled). Non-alarmed events can be either standing conditions or transient conditions (TC). Transient conditions do not have an associated "clear" message, and are never reported in response to a RTRV-ALM or RTRV-COND command.

#### Unreported events

Condition types with the notification code NR are not reported, but are recorded in a module's Event log. Unreported events can be either standing or transient conditions. If an unreported event is a standing condition, it is reported in response to a RTRV-COND command, provided that it has not been cleared. Unreported events that are transient can only be detected by retrieving the Event log from the module.

**Note:** The RTRV-COND command retrieves current standing events (non-cleared events with the notification code NA) as well as current standing alarms (non-cleared alarms with the notification codes : CR, MJ and MN).

The following tables list the acceptable values for alarms, events, and condition parameters.

**Table 16-4**  
**ETS Switch and Comms modules condition notification codes**

Parameter	Possible Values
<ntfncde>	Notification code : <ul style="list-style-type: none"> <li>• CR = Critical</li> <li>• MJ = Major</li> <li>• MN = Minor</li> <li>• NA = Not alarmed</li> <li>• NR = Not reported</li> <li>• CL = Cleared</li> </ul>
<srveff>	Service effect : <ul style="list-style-type: none"> <li>• SA = Service affecting</li> <li>• NSA = Non-service-affecting</li> </ul>
<condtype>	Condition type : As defined in this section.
<condeff>	Condition effect : <ul style="list-style-type: none"> <li>• CL = Standing condition cleared</li> <li>• SC = Standing condition</li> <li>• TC = Transient condition</li> <li>• Null = Defaults to TC</li> </ul>

## Alarm notifications

**Table 16-5**  
**ETS Switch module module alarms—default provisioning**

Alarm	Modifier	<aid>	<ntfncde>	<condtype>	<srveff>	<condeff>	Description
Primary path input fail high	OCH	1-2-1	MJ	LOS	NSA	SC	Primary path input power exceeds the upper threshold (applicable in WS mode).
Primary path input fail low	OCH	1-2-1	MJ	LOS	NSA	SC	Primary path input power exceeds lower threshold (applicable in WS and AS modes).
Secondary path input fail high	OCH	1-2-2	MJ	LOS	NSA	SC	Input power on secondary path exceeds the upper threshold (applicable to WS mode).
Secondary path input fail low	OCH	1-2-2	MJ	LOS	NSA	SC	Secondary path input power exceeds the lower threshold (applicable in WS and AS modes).
Active path failure	OCH	1-2-(1-2)	CR	LNKFAIL	SA	SC	If operating in manual mode, the active path failed.  If operating in automatic mode, both paths failed.
Internal hardware failure	EQPT	1-2	CR	INT	SA	SC	Miscellaneous internal failure.
Power feed <b>A</b> failure	COM	1-2	NR	PWR	NSA	SC	Supply <b>A</b> failed.
Power feed <b>B</b> failure	COM	1-2	NR	PWR	NSA	SC	Supply <b>B</b> failed.
Manual Switch To Primary	EQPT	1-2	NA	PS	NSA	TC	Traffic was manually switched to the primary path.

**Table 16-5 (continued)**  
**ETS Switch module module alarms—default provisioning**

Alarm	Modifier	<aid>	<ntfcn>	<condtype>	<srveff>	<condef>	Description
Manual Switch To Secondary	EQPT	1-2	NA	PS	NSA	TC	Traffic was manually switched to the secondary path.
Auto Switch To Secondary	EQPT	1-2	NA	PS	NSA	TC	Module automatically switched traffic to the secondary path.
Auto Switch-back to Primary	EQPT	1-2	NA	PS	NSA	TC	Module automatically switched traffic to the primary path.
APS overridden	EQPT	1-2	MJ	OVRDSW	NSA	SC	Automatic protection switching is disabled. The module is operating in manual mode.
Sense Priority Mode Active	EQPT	1-2	NA	SMACT	NSA	SC	TL1 The operating mode was changed to SENSE-PRIORITY (attribute = ON)
Sense Switch to Primary	EQPT	1-2	NA	SENSEPRI	NSA	TC	This event is triggered when the sense input goes low. This event is not reported as an alarm and is only visible in the Events log.
Sense Switch to Secondary	EQPT	1-2	NA	SENSESEC	NSA	TC	This event is triggered when the sense input goes high. This event is not reported as an alarm and is only visible in the Events log.
Mode changed to Absolute Switching (AS) mode	EQPT	1-2	NR	ABSSWMODE	NSA	TC	Switching mode changed to absolute switching.

**Table 16-5 (continued)**  
**ETS Switch module module alarms—default provisioning**

Alarm	Modifier	<aid>	<ntfcn>	<condtype>	<srveff>	<condef>	Description
Mode changed to Window Switching (WS) mode	EQPT	1-2	NR	WINSWMODE	NSA	TC	switching mode changed to window switching.
Window Switching reference level changed	EQPT	1-2	NR	WINSWREF CHG	NSA	TC	User has recalibrated the reference power levels used by module in WS mode.
Absolute switching threshold changed	EQPT	1-2	NR	ABSSWTH CHG	NSA	TC	User has recalibrated the threshold used by the module in AS mode.
Automatic Message Inhibited	EQPT OCH	1-2	NR	INHMSG[-x]	NSA	SC	Automatic messages for condition type or notification code x are inhibited.
Event log was cleared	EQPT	1-2	NR	EVTLOGCLR	NSA	TC	The Event log was cleared at the request of a user.
LOGBUFR90-EVTLOG	EQPT	1-2	NA	LOGBUFR90-EVTLOG	NSA	TC	The Event log is full to 90% of capacity.
LOGBUFROVFL-EVTLOG	EQPT	1-2	NA	LOGBUFROVFL-EVTLOG	NSA	TC	The Event log has overflowed.
Unit Reset	EQPT	1-2	NR	SYSBOOT	NSA	TC	Soft reset was completed.
Unit state changed (to new state)	EQPT OCH	1-2-(1,2)	NA	MT	NSA	TC	Reports a change in the state of a unit (card or port). The state can be changed to out-of-service (OOS) using the RMV command or in-service (IS) using the RST command.

### ETS Comms module non-security related alarms

The following table lists the non-security related alarms that can be raised by the ETS Comms module.

*Note:* The <aid> of the ETS Comms module is always "1-C" when it is installed in an ETS shelf.

**Table 16-6**  
**ETS Comms module non-security alarms--Default provisioning**

Alarm	Modifier	<aid>	<ntfcn>	<condtype>	<srveff>	<condef>	Description
Power feed A failure in shelf (shelf number)	COM	1-C	MN	PWR	NSA	SC	Supply <b>A</b> failed.
Power feed B failure in shelf (shelf number)	COM	1-C	MN	PWR	NSA	SC	Supply <b>B</b> failed.
ETS Comms module error	EQPT	1-2	MJ	EQPT	SA	SC	The module is physically installed but the communication module cannot communicate with it.
Internal hardware failure	EQPT	1-C	CR	INT	SA	SC	Miscellaneous internal failure.
Internal software failure (line, file)	EQPT	1-C	NR	SFT	SA	SC	Software error occurred at line, file.
A module has been removed from the shelf.	EQPT	1-2	CR	CARD-MISSING	SA	SC	<b>Note:</b> This condition is similar to IMPROPRMVL, but is raised regardless of the state of the card at the time it was removed. This alarm substitutes for IMPROPRMVL until it can be implemented.
Module installed	EQPT	1-2	NA	EQ	NSA	TC	Reported when a module is mounted in the given slot number.
Module removed	EQPT	1-2	NA	UEQ	NSA	TC	Reported when a module is disconnected (or removed) from the given slot number.
ACO	EQPT	1-2	NA	ACON	NSA	SC	Reported when ACO is ON or OFF.

**Table 16-6 (continued)**  
**ETS Comms module non-security alarms--Default provisioning**

Alarm	Modifier	<aid>	<ntfncde>	<condtype>	<srveff>	<condeff>	Description
Subnet mask was changed by <i>uid</i>	COM	1-C	NA	SUBNET CHGD	NSA	TC	Reported when the IP subnet mask is changed by a user (UID).
Gateway address was changed by <i>uid</i>	COM	1-C	NA	GTWYADDR CHGD	NSA	TC	Reported when the gateway address assigned to the ETS Comms module is changed by a user.
TCPIP has not started	COM	1-C	NA	TCPNT STARTED	NSA	TC	Reported when the TCP/IP protocol stack and related facilities do not start.  <b>Note:</b> This is usually due to missing configuration parameters link IP-ADDRESS and SUBNETMASK.
TID was changed	COM	1-C	NA	TID CHANGED	NSA	TC	Reported when the TID is changed.
IP address was changed by <i>uid</i>	COM	1-C	NA	IPADDR CHANGED	NSA	TC	Reported when the local IP address is changed by a user (UID).
Automatic Message Inhibited	EQPT	1-C	NR	INHMSG[-x]	NSA	SC	Reported when, and which autonomous messages are inhibited.
Log was cleared	EQPT	1-C	NR	EVTLOGCLR	NSA	TC	Reported when the Event log is cleared at the request of a user.
LOGBUFR90-EVTLOG	EQPT	1-C	NA	LOGBUFR90-EVTLOG	NSA	TC	Reported when the Event log is full to 90% of its capacity.  <b>Note:</b> Capacity is 100 events.
LOGBUFROVFL-EVTLOG	EQPT	1-C	NA	LOGBUFROVFL-EVTLOG	NSA	TC	Reported when the Event log reaches maximum capacity and overflows.  <b>Note:</b> Maximum capacity is 100 events.
Unit Reset	EQPT	1-C	NR	SYSBOOT	NSA	TC	Soft reset was completed.
Fan failure in shelf (shelf number)	COM	1-C	MJ	FANx-FAIL	SA	SC	Where x = 1 or 2. (indicates the failed fan)  Indicates that a fan module has failed.

### ETS Comms module security-related events

By default, the Security log is enabled, and autonomous messages are disabled.

**Table 16-7**  
**ETS Comms module security-related events**

Event	Modifier	<aid>	<ntfncde>	<ntfctype>	<secualmtype>	Description
T-UIDAGE	SECU	uid	MN	MSG	T-UIDAGE	Reported when a user-ID should be disabled due to inactivity (elapsed time as defined by the UOUT parameter).
LOGBUFR90 SECULOG	SECU	SECULOG	MN	MSG	LOGBUFR90- SECULOG	Reported when the Security log is full to 90% of capacity. <b>Note:</b> Maximum capacity is 100 events.
LOGBUFR OVFLSECUL OG	SECU	SECULOG	MN	MSG	LOGBUFROVFL -SECULOG	Reported when the Security log reaches capacity and overflows. <b>Note:</b> Maximum capacity is 100 events.
DEL-USER- PEND	SECU	uid	NR	MSG	DLTPEND	Reported when a user account is going to be deleted when the current session terminates.
DEL-USER- SUCC	SECU	uid	NR	MSG	DLTSUCC	Reported when a user account (UID) is deleted.
ED-USER- PEND	SECU	uid	NR	MSG	EDPEND	Reported when a user account is going to be edited after the user logs out.
ED-USER SUCC	SECU	uid	NR	MSG	EDSUCC	Reported when user account attributes (UID, PID, or UAPs) are changed successfully.

**Table 16-7 (continued)**  
**ETS Comms module security-related events**

<b>Event</b>	<b>Modifier</b>	<b>&lt;aid&gt;</b>	<b>&lt;ntfncde&gt;</b>	<b>&lt;ntfctype&gt;</b>	<b>&lt;secualmtype&gt;</b>	<b>Description</b>
ENT-USER-SUCC	SECU	uid	NR	MSG	ENTSUCC	Reported when a new user account (UID) is created.
LOG-IN	SECU	uid	NR	MSG	LOGIN	Reported when a user logs in.
LOG-OUT	SECU	uid	NR	MSG	LOGOUT	Reported when a user logs out.
AUTO-LOG-OUT	SECU	uid	NR	MSG	AUTOLOGOUT	Reported when the system automatically logs out a session as the result of a dropped remote connection.
PID-CHANGE D	SECU	uid	NR	MSG	PIDCHG	Reported when a password is changed by its user (UID).
Security log was cleared	SECU	SECULOG	NR	MSG	SECULOGCLR	Reported when the Security log is cleared as the result of a user request.

---

# Comms module commands

---

## System security management

The ETS Comms module manages security access to the modules in the system through the following log-in services:

- Identification
- Authentication
- System access control
- Resource access control
- Audit log

The ETS Comms module maintains a Security log (database) of events related to security management. Logged events include:

- User log-ins (both successful and unsuccessful)
- Creating user accounts
- Deleting user accounts
- Changing user access privileges

## Default and user accounts

The ETS supports log-in/log-out for a maximum of two default accounts: “SUPERUSER” and “ADMINUSER”, as well as nine user accounts.

### Default

The Superuser and Adminuser accounts have the maximum authorization privileges, cannot be deleted, and are not visible to other users. These are the only accounts authorized to create and delete other user accounts, and assign user access privileges to accounts.

*Note:* The <uid> and <pid> are case sensitive.

### User access privileges

The extent of a user's access to the system is determined by the level of user access privileges (UAP) assigned to the account.

Each user that is added to the system, must have user access privileges (UAP) assigned, to identify the extent of the user's authorization level (AL) for each command function category (FC). UAPs take the following form:

[FC][AL]&[FC][AL]&[FC][AL]&[FC][AL]&[FC][AL]

Multiple functional category authorization levels (FCALs) are assigned by using single ampersands (&) as delimiters.

TL1 commands are grouped into the following five function Categories:

- Security Administration (S)
- Provisioning (P)
- Maintenance (M)
- Test Access (T)

For each FC, a user can have one of six authorization level values. The allowable values are:

- 0 (zero)—where 0 means the user is not authorized to issue those commands
- from 1 (low, default) to 5 (high)

*Note:* At a minimum, users must be assigned at least an S1 to log-in, log-out, and change their own passwords.

Table 17-1 lists the possible FCAL values.

**Table 17-1**  
**Functional Category Authorization Levels (FCAL)**

FCAL	Description
S[1-5]	For Security Administration Authorization Level 1 through 5.
P[0-5]	For Provisioning Authorization Level 0 through 5.
M[0-5]	For Maintenance Authorization Level 0 through 5.
T[0-5]	For Test Access Authorization Level 0 through 5.

## Passwords

The ETS authenticates passwords for user accounts, and determines how passwords age (based on user-configurable parameters). The passwords have the following features:

- Default password expiration period = 60 days.
- Default password expiration grace period expressed as time = 7 days.
- Default password expiration grace period expressed as log-ins = 3.

- Blank passwords (no characters) are not acceptable.
- Passwords must be between 6 and 10 characters in length, contain at least one numeric character and one alphabet character, and may contain special characters.

*Note 1:* The system does not prevent a user from selecting a password that is currently associated with an enabled or disabled user account.

*Note 2:* In the current release of the product, when the passwords are typed on the screen, the TL1 command screen displays the password character typed, it is not encrypted. This will be corrected in a future release.

## System access

The ETS Comms module controls access to the system and monitors user sessions. System access control has the following features:

- Displays a "no trespassing" warning when a log-in is initiated.
- A log-in procedure is suspended after three unsuccessful attempts.
- A session is terminated if it is idle for 35 consecutive minutes (user must log-in again and initiate a new session). This timeout value is user provisionable.
- Default user ID obsolescence due to nonuse = 90 days

## TL1 user interface to the network

The TL1 interface is a text-based, single command-line user interface. The interface is established

- by connecting an ANSI standard terminal, to the RS-232 port on the front panel of the ETS Comms module;
- or through a TCP/IP 10Base-T Ethernet connector on the backplane of the ETS shelf. Note : the user can telnet to the Ethernet port using 2 different port numbers : port 23 (no local echo and only 1 user), port 3082 (local echo and maximum 4 users).

After mounting the ETS Comms module in the shelf, it must be commissioned with an IP address, gateway address, subnet mask, and target identifier (TID) in order for it to be found on the network. See *Commissioning Procedures*, 323-1701-220 for details.

## TL1 prompt

The TL1 prompt is indicated by an angled bracket (>) displayed on the left side of the screen. The prompt appears after a semicolon (;) is typed.

TL1 command syntax uses a semicolon (;) and a carriage return as a line terminator. A TL1 command is executed immediately after the semicolon is typed. You do not have to press **Enter** to execute the command.

*Note:* A semicolon is shown at the end of all TL1 commands in this guide.

### **User Identifier <UID>**

A user identifier (UID) is a unique, non-confidential name, which identifies each authorized system user. UIDs are between 6 and 10 alphanumeric characters. The UID parameter appears as <uid> in the TL command descriptions in this manual.

You must have a valid UID to activate a user login session.

*Note:* The UID is case sensitive.

### **Password Identifier <PID>**

A password identifier (PID) is a confidential word that validates a user's access to the account specified by the UID. The PID parameter appears as <pid> in the TL command descriptions in this manual.

*Note:* In this release of the product, when typed on the screen, the password is displayed by the TL1 command screen. This will be corrected in a future release of the product.

You must have a valid password to activate a user login session to the specified UID, or to change your current password.

*Note:* The PID is case-sensitive.

### **PID naming rules**

Password identifiers are between 6 and 10 characters in length, and are composed of a combination of alphanumeric (letters A through Z; numbers 0 through 9) and special characters.

The following special characters are supported for the password:

. # % + \_ -

The password must contain at least one alphabetic character, one numeric, and one special character.

The following characters are not supported for the password:

- semicolon (;)
- colon (:)
- ampersand (&)
- comma (,)
- question mark (?)
- and all control characters

### Default username and password

When an ETS is first installed in an ETS shelf, you must log-in using the one of the factory default usernames and passwords. The default Usernames and Passwords are:

- Username: SUPERUSER
- Password: Sup%9User
- and
- Username: ADMINUSER
- Password: Admin%9

### TL1 notation

The following table lists the meaning of the notations used to define the language of TL1 messages.

**Table 17-2**  
**TL1 notation**

Notation	Meaning
cr	ASCII carriage return
lf	ASCII line feed
^	ASCII space
[]	Optional parameter for editing and entering commands
<>	Required parameter
&	In a command, a single ampersand (&) can be used to separate individual equipment and facility objects when you want to list multiple items in the same parameter.
&&	Two ampersands (&&) are used in commands that accept a range of values. <b>Note:</b> When you want to include a range of values in a parameter, always identify the equipment with the lowest slot or port number first.

### TL1 punctuation

TL1 commands use colons (;), commas (,) and semicolons.

- Colons and commas separate command elements
- Semicolons are the signal to the system that the command is complete. The system executes the command immediately after a semicolon is typed on the command line.

TL1 also uses ampersands singly (&) to list items, or in pairs (&&) to show a range of values, when multiple items are allowed for a single parameter in the same command.

**Note:** All the punctuation shown in the command descriptions must be typed or the system cannot execute the command.

## Listing parameter values

Some TL1 commands allow you to list multiple values for a single parameter, using an ampersand (&) to separate each item in the list. The format for listing parameter values is:

```
<First value>&<Second value>...
```

Example:

```
VERB-MODIFIER:<tid>:<aid>:<ctag>::<First value>&  
<Second value>&<Third value>;
```

**Note:** Listing and ranging of AIDs is not supported. In general one, and only one, <aid> is permitted for most TL1 commands. Some commands are exceptions, and can interpret a blank or null <aid> or the word "All" as referring to all slots. See the detailed command descriptions for these exceptions.

## TL1 command confirmation

After typing the semicolon on the command line, the system responds with the normal response or, after two seconds, by displaying the letters "IP", to indicate that the command is "in progress".

The TL1 prompt does not return until the command completes successfully, or fails.

If the system cannot either complete, or deny a command within 2 seconds, it returns the following intermediate acknowledgement response:

```
<ack> [ ^<ctag> ] <cr><lf><
```

**Note:** An optional <ctag> can be included in the acknowledgement response, and is indicated by the presence of the second "<" in the response.

The following table lists the possible values for the acknowledgement (<ack>) field.

**Table 17-3**  
**TL1 acknowledgement values**

Value	Meaning
IP	In Progress The system is executing the command. Other messages follow, for example, a Cmpld response.
NA	No Acknowledgment Sent under abnormal conditions, if a command is accepted but a Cmpld or Deny response is not possible.
RL	Repeat Later The system cannot execute the command due to a lack of system resources.

### Occurrence date and time (<ocrdat> and <ocrtm>)

Some TL1 responses and autonomous messages include a date and time parameter indicating when the event occurred. The format of this occurrence date and occurrence time differs from the format of the date and time described in the standard normal response.

The format of the <ocrdat> is MOY-DOM, where

- MOY (month-of-year)—range is 1–12;
- DOM (day-of-month)—range is 1–31.

The format of the <ocrtm> is HOD–MOH–SOM, where:

- HOD (hour-of-day)—range is 0–23
- MOH (minute-of-hour)—range is 0–59
- SOM (second-of-minute)—range is 0–59

### TL1 commands

The following table summarizes each TL1 command that is applicable to the ETS Comms module. A detailed explanation of the command and syntax is provided in the following chapters.

Table 17-4 shows the user access privilege (UAP) required to execute the command.

**Table 17-4**  
**TL1 commands**

TL1 Command	UAP	Description
Security and Administration Commands		
ACT-USER	S1	Log-in and initiate a TL1 session with an NE/NS.
ALW-LOG-SECU	S5	Re-enable recording of specified events in the security log.
ALW-MSG-SECU	S5	Re-enable autonomous messages/alarms associated with security-related events.
ALW-USER-SECU	S5	Re-enable a user account previously disabled with an INH-USER-SECU command.
CANC-USER	S1	Terminates a session (log-out) with the specified NE/NS.
CANC-USER-SECU	S5	Terminate the session of the specified user with an NE/NS.
DLT-USER-SECU	S4	Delete the security parameters associated with a user. Closes the user account.
ED-DAT	P3	Change the date on the ETS Comms module. <b>Note:</b> Results in a change to all the modules managed by the target ETS Comms module.
ED-PID	S1	Executed by any user to edit his/her own password, or another confidential authenticator.
ED-USER-SECU	S4	Edit the security parameters (UAPs) assigned to a user.
ENT-USER-SECU	S4	Assign security parameters (UAPs) to a user.
INH-LOG-SECU	S5	Instruct the target module to stop recording specified events in the security log.
INH-MSG-SECU	S5	Instructs the target module to stop sending the specified autonomous messages or alarms associated with security-related events.
INH-USER-SECU	S5	Disable a user's account—the user cannot log-in to the NE. <b>Note:</b> Command does not delete the user or change security parameters.
RTRV-ALM-SECU	S5	Retrieve security-related alarms.
RTRV-ATTR-SECUL OG	S5	Return the attributes of the security log from the target module <b>Note:</b> The attributes determine the types of events recorded in the security log.

**Table 17-4 (continued)**  
**TL1 commands**

RTRV-HDR	M1	Instructs the target module to return a normal response indicating COMPLD. This command is used as a monitoring tool by the network management system.
RTRV-STATUS	M1	Return the UIDs of all users currently logged-in to the target NE, and all the UIDs that are temporarily disabled.
RTRV-USER-SECU	S4	Return the security parameters associated with a user, except password, which cannot be retrieved.
SET-ATTR-SECUAL M	S5	Set the attributes of security-related alarms (severity, type of alarm, type of notification, text message).
SET-ATTR-SECULO G	S5	Set the attributes of the security log.
SET-SID	M4	Setting the system ID (SID) changes the TID of the target module.
System Commands		
INIT-LOG	M4	Clear the specified log.
INIT-SYS	P4	Initiate a warm boot of the unit.
RTRV-LOG	M1	Instructs the target module to return the entries in the specified log.
Equipment Commands		
ED-EQPT	P4	Edit module-specific equipment information.
RMV-EQPT	P4	Change the state of the target module to out-of-service (OOS). <b>Note:</b> This command automatically inhibits all autonomous messages.
RST-EQPT	P4	Restore the target module to an in-service (IS) state. <b>Note:</b> Autonomous messages are resumed as configured.
RTRV-EQPT	P1	Instructs the target module to return module-specific equipment information.
RTRV-INV	P1	Returns an inventory of all modules installed in the selected module.
RTRV-TIDS	P1	Returns TL1 routing information stored in the selected ETS Comms module.
RTRV-NETTYPE	M1	Retrieve hardware revision number of the shelf into which the target ETS Comms module is inserted.
Alarm and Event commands		
ALW-MSG	M4	Instruct the target module to allow the previously inhibited autonomous messages. <b>Note:</b> Applies to the current user session only.

**Table 17-4 (continued)**  
**TL1 commands**

INH-MSG	M4	Instructs the target module to stop sending the specified autonomous messages for all the <aid>s listed. <b>Note:</b> Applies to the current user session only.
OPR-ACO	P1	Instructs the target module to turn off the audible alarm. This command has no effect on future alarms; it only effects the active alarms. <b>Note:</b> Disabling the audible alarm does not clear the alarm. There is no "release" ACO command.
RTRV-ALM	M1	Display the alarm conditions for the target module. If module is unreachable, the associated ETS Comms module responds with the current alarm conditions of the module.
RTRV-ATTR	P4	Instructs the target module to return the notification code associated with the specified events.
RTRV-COND	M1	Instructs the target module to return the current standing conditions of the specified modules or ports. See <a href="#">"Conditions (alarms and events)" on page 16-6</a> .
SET-ATTR	P4	Set the notification codes for the specified condition types, used by the specified modules or ports.

## States

The state of a card affects the module's ability to execute TL1 Commands. The characteristics of the possible states for a module are as follows.

### Primary state (PST)

The primary state (PST) parameter indicates the current service condition of the module. There are only two possible states:

- IS (in-service) or
- OOS (out-of-service)

### Primary state qualifier (PSTQ)

The primary state qualifier (PSTQ) parameter carries additional information about the primary state.

#### PSTQ In-service

When a module is in-service, the PSTQ indicates whether the module is totally, or only partially in-service. ETS Comms and Switch modules support only one in-service state: IS-NR (In-service—Normal). An IS-NR condition indicates that the module is operational and allowed to provide all of its functions.

### PSTQ Out-of-service

When a module is out-of-service, the PSTQ indicates if the module is OOS as the result of a management command, or as the result of some condition within the module itself, for example the result of an event that occurred. ETS Comms and Switch modules support AU, MA, and AUMA qualifiers for the OOS state

- AU (Autonomous)
- MA (Management)
- AUMA (Autonomous and Management)

### Secondary state (SST)

The secondary state (SST) parameter carries additional information related to the PST and PSTQ states. For example, the SST can indicate the type of, and/or reason, for the external command or the event that occurred in the module.

- UEQ (Unequipped)

*Note:* Multiple SST values can apply to a single module at any given moment.

### State restrictions on TL1 commands

The following table lists the states and error codes that can affect TL1 commands if the target module or port is unavailable.

**Table 17-5**  
State restrictions and error codes

TL1 command	Module/Port	Denied state	Error code
RST	A module is being restored	IS-NR OOS-AU	SAIS (Status, Already In-Service)
RMV	The module is removed	OOS-MA OOS-AUMA	SAMS (Status, Already In Maintenance State)
All TL1 commands supported except: RTRV-EQPT, RTRV-ALM-QPT, RTRV-COND-EQPT, and all commands only applicable to an ETS Comms module.	The module named in the AID	UEQ	ENEQ (Equipage, Not Equipped)

*Note 1:* An ETS Comms module accepts the RTRV-ALM, RTRV-COND, and RTRV-EQPT regardless of the state of the target module, as long as a TL1 connection is valid. The connection is valid if the ETS Comms module is in-service.

**Note 2:** The INIT-SYS command can be executed while a module is OOS if it is capable of initialization. If not, an EUNR (Equipage, Not Recoverable) error code is returned.

**State change matrix**

In TL1 responses, multiple secondary states are separated by spaces.

**Note:** The default state for an empty slot is OOS-AUMA, UEQ.

**Table 17-6  
Module states**

Event /Command	PST and PSTQ of the Entity Prior to Event Occurrence			
	IS	OOS		
	NR	AU	MA	AUMA
RMV-EQPT or ED-EQPT with <pst> OOS	OOS-MA	OOS-AUMA ("Clear" messages are sent for all active alarms on the equipment unit)	Deny with SAMS error code	Deny with SAMS error code
RST-EQPT or ED-EQPT with <pst> IS	Deny with SAIS error code	Deny with SUFA (Status, Unit Failed)	IS-NR	Deny with SUFA (Status, Unit Failed)
When the following alarmed conditions are raised on a module: INT, SFT, EQPT	OOS-AU	—	OOS-AUMA (No alarm messages is sent while a module is in a maintenance state.)	—
Alarm clears	—	IS-NR	—	OOS-MA (No clear messages is sent when a module is in a maintenance state.)

**Table 17-6 (continued)**  
**Module states**

Event /Command	PST and PSTQ of the Entity Prior to Event Occurrence			
When the ETS Comms module detects that a module was physically removed.	OOS-AU, UEQ (IMPROPRMVL)	OOS-AU, Activate UEQ	OOS-AUMA, Activate UEQ	OOS-AUMA, Activate UEQ
Insert proper card	—	IS-NR, deactivate UEQ	—	IS-NR, Deactivate UEQ
Insert wrong card	—	OOS-AU, Deactivate UEQ	—	OOS-AUMA, Deactivate UEQ

## Security and administration commands

This section provides detailed syntax descriptions for TL1 commands related to security and administration.

The commands in this section identify each command and explain the purpose, syntax, variables, and system responses.

AdminUser-level access is required to execute any command with an SECU modifier.

### ACT-USER

Use the ACT-USER command to request a login session with the target ETS Comms module. You must have a valid user identifier (UID) and password identifier (PID) to use this command.

To end your session with the module, use the CANC-USER command.

**Note 1:** If you lose your connection and upon re-establishing it the ACT-USER command is denied, execute the command a second time. A semicolon is shown at the end of all TL1 commands in this guide.

**Note 2:** Entering an invalid password three times causes a lockout. The lockout is automatically lifted after 1 min.

**Input syntax**

ACT-USER: [<tid>]:<uid>:<ctag>::<pid>;

**Table 17-7**  
**ACT-USER possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
uid	The identifier of the user requesting the login.	Alphanumeric string
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
pid	Password The user’s password.	See “Password Identifier <PID>” on page 17-4

**Normal response**

**ATTENTION**

This system is restricted solely to authorized users for legitimate business purposes only. The actual or attempted unauthorized access, use, or modification of this system is strictly prohibited. Unauthorized users are subject to disciplinary proceedings and/or criminal and civil penalties under state, federal, or other applicable domestic and foreign laws. The use of this system may be monitored and recorded for administrative and security reasons. Anyone accessing this system expressly consents to such monitoring and is advised that if monitoring reveals possible evidence of criminal activity, the company may provide the evidence of such activity to law enforcement officials.

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> +;
```

Where <rspblk> has the following format:

```
^^^"<uid>:<date/time>,<# login attempts>" <cr> <lf>
```

The <date/time> parameter refers to the date and time of the user’s last successful log-in. The <# login attempts> parameter shows to the number of unsuccessful attempts since the last log-in.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

**ALW-LOG-SECU**

Use this command to instruct the target module to resume recording the specified events in the Security log. This command cancels the previous INH-LOG-SECU command.

**Input syntax**

```
ALW-LOG-SECU: [<tid>]:<aid>:<ctag>:: [<events>];
```

**Table 17-8**  
**ALW-LOG-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-C”. <b>Note:</b> Only the ETS Comms module contains a Security log.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
events	List of security-related events to resume recording in the Security log. Events are identified by name. The names must be consistent with the event names used in the SET-ATTR-SECULOG and RTRV-ATTR-SECULOG commands. <b>Note:</b> A null value allows all security events to appear in the log.	See “Conditions (alarms and events)” on page 16-6.

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

## ALW-MSG-SECU

Use this command to instruct the target module to resume sending the specified security-related autonomous messages. This command cancels the previous INH-MSG-SECU command.

### Input syntax

```
ALW-MSG-SECU: [<tid>]:<aid>:<ctag>:: [<events>];
```

**Table 17-9**  
**ALW-MSG-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always "1-C". <b>Note:</b> Only the ETS Comms module generates security-related autonomous messages.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
events	List of the autonomous security-related events to resume sending. A null value allows the module to resume sending all autonomous security messages. Events are identified by name. The names must be consistent with event names used in the RTRV-ALM-SECU and SET-ATTR-SECUALM commands. <b>Note:</b> A null value allows all autonomous security messages.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.

### Normal response

See "[Standard normal response](#)" on page 16-3.

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## ALW-USER-SECU

Use this command to enable a user account previously disabled by the INH-USER-SECU command or a password or user id expiry.

### Input syntax

```
ALW-USER-SECU: [<tid>]:<aid>:<ctag>::<uid>;
```

**Table 17-10**  
**ALW-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-C”. <b>Note:</b> Enabling or disabling of user accounts is done through an ETS Comms module only.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
uid	The identifier of the user account to enable.	Alphanumeric string

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## CANC-USER

Use this command to terminate an active TL1 user session with the target module. The UID of the active session is required in order to log-out.

**Note:** A session can only be terminated from the account that initiated the session.

**Input syntax**

CANC-USER: [<tid>]:<uid>:<ctag>;

**Table 17-11**  
**CANC-USER possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
uid	The identifier of the user account that initiated the session.	Alphanumeric string
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

**CANC-USER-SECU**

Use this command to terminate another user’s login session.

**Input syntax**

CANC-USER-SECU: [<tid>]:<uid>:<ctag>;

**Table 17-12**  
**CANC-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
uid	The identifier of the user account to terminate.	Alphanumeric string
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

**Normal response**

See [“Standard normal response” on page 16-3.](#)

**Error response**

See [“TL1 messages” on page 16-1.](#)

**Error codes**

See [“Error codes” on page 18-31.](#)

**DLT-USER-SECU**

Use this command to delete the security parameters associated with the user account. Results in closing the account.

**Input syntax**

DLT-USER-SECU: [<tid>]:<uid>:<ctag>;

**Table 17-13**  
**DLT-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4 .</a>
uid	The identifier of the user account to delete.	Alphanumeric string
ctag	Correlation Tag	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a>

**Normal response**

See [“Standard normal response” on page 16-3.](#)

**Error response**

See [“TL1 messages” on page 16-1.](#)

**Error codes**

See [“Error codes” on page 18-31.](#)

**ED-DAT**

Use this command to change the date and time stored in the ETS Comms module. Other modules automatically update their date and time from the associated ETS Comms module. Events in logs are time stamped with this date and time. The input command requires the user to enter either the date or the time, or both.

**Note:** Values for hours, minutes, seconds, days, months and years must be expressed as two-digit numbers.

### Input syntax

ED-DAT: [<tid>] :: <ctag> :: <date>, <time>;

**Table 17-14**  
**ED-DAT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
date	The current date in YY-MM-DD format.	yy: 70-99 = 1970-1999 or 00-69 = 2000-2069 mm:01-12 dd: 01-31
time	The current time in HH-MM-SS format.	hh: 00-23 mm:00-59 ss: 00-59

### Normal response

See "[Standard normal response](#)" on page 16-3.

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## ED-PID

Use this command to change your own password.

**Input syntax**

```
ED-PID: [<tid>]:<uid>:<ctag>::<old pid>,<new pid>;
```

**Table 17-15**  
**ED-PID possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
uid	The user's own identifier.	Alphanumeric string
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
old pid	The existing password.	User's current password
new pid	The new password to replace the existing one. <b>Note:</b> The password must contain at least one alphabetic character, one numeric, and one special character.	See " <a href="#">Password Identifier &lt;PID&gt;</a> " on page 17-4

**Normal response**

See "[Standard normal response](#)" on page 16-3.

**Error response**

See "[TL1 messages](#)" on page 16-1.

**Error codes**

See "[Error codes](#)" on page 18-31.

**ED-USER-SECU**

Use this command to change the user access privileges (UAPs) associated with the specified user account.

A user's password can be changed with this command.

**Input syntax**

```
ED-USER-SECU: [<tid>]:<uid>:<ctag>:: [<new uid>],
 [<new pid>], , [<uap>]: [<parameter block>];
```

**Table 17-16**  
**ED-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
uid	The identifier of the user account whose UAP you want to change.	Alphanumeric string
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
uid	The current user identifier.	See “User Identifier <UID>” on page 17-4.
new pid	The new password (if applicable).	See “Password Identifier <PID>” on page 17-4
uap	The new user access privileges for the account. <b>Note</b> : the PM UAP must be entered after the provisioning authorization privilege in order for the command to be valid, even though there are no commands or functions on the Comms module that currently uses PMs. The intent is that when PM commands are introduced in a future release, no re-provisioning of UAPs will be required. Example of uap entered : S5&P5& <b>PM5</b> &M5&T5	See Table 17-1 on page 17-2 for possible values.
parameter block	Keyword-defined parameter block. Determines how a password ages. Valid keywords are: <ul style="list-style-type: none"> <li>• PAGE = Password aging interval in days.</li> <li>• PCND = The number of <b>days</b> that an existing password can continue to be used before a new password is required.</li> <li>• PCNN = The number of <b>times</b> (log-ins) that an existing password can continue to be used before a new password is required.</li> <li>• UOUT = User ID obsolescence due to nonuse, expressed in days. If a UID is not used for this time period, it is disabled.</li> </ul> <b>Note</b> : Using the integer value 999 disables the feature.	PAGE = Integer (1-999) PCND = Integer (1-999) PCNN = Integer (1–999) UOUT = Integer (1-999)

**Normal response**

See [“Standard normal response” on page 16-3.](#)

**Error response**

See [“TL1 messages” on page 16-1.](#)

**Error codes**

See [“Error codes” on page 18-31.](#)

**ENT-USER-SECU**

Use this command to create a new user account and assign the user access privileges (UAPs).

**Input syntax**

```
ENT-USER-SECU: [<tid>]:<uid>:<ctag>::<new pid>, ,<uap>:
<parameter block>;
```

**Table 17-17**  
**ENT-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4 .</a>
uid	The user identifier to assign to the new user account.	See <a href="#">“User Identifier &lt;UID&gt;” on page 17-4.</a>
ctag	Correlation Tag	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a>

**Table 17-17 (continued)**  
**ENT-USER-SECU possible values**

Parameter	Meaning	Possible Values
new pid	The new password.	See <a href="#">“Password Identifier &lt;PID&gt;”</a> on page 17-4
uap	The new user access privileges for the account. <b>Note</b> : the PM UAP must be entered after the provisioning authorization privilege in order for the command to be valid, even though there are no commands or functions on the Comms module that currently uses PMs. The intent is that when PM commands are introduced in a future release, no re-provisioning of UAPs will be required. Example of uap entered : S5&P5&PM5&M5&T5	See <a href="#">Table 17-1 on page 17-2</a> for possible values.
Parameter block	Keyword-defined parameter block. Valid keywords are as follows: <ul style="list-style-type: none"> <li>• PAGE = Password aging interval in days. Any integer from 1 to 999, inclusive. Default is 60 days.</li> <li>• PCND = The number of <i>days</i> that an expired password can continue to be used before a new password is required. Any integer between 1 and 999, inclusive. Default is 7 days.</li> <li>• PCNN = The number of <i>times</i> (log-ins) that an expired password can continue to be used before a new password is required. Any between 1 and 999, inclusive. Default is 3 times.</li> <li>• UOUT = User ID obsolescence due to nonuse, expressed in days. If a UID is not used for this duration, it is disabled. Any integer between 1 and 999, inclusive. Default is 90 days.</li> </ul> <b>Note</b> : Using the integer value 999 disables the feature.	

### Normal response

See [“Standard normal response”](#) on page 16-3.

### Error response

See [“TL1 messages”](#) on page 16-1.

### Error codes

See [“Error codes”](#) on page 18-31.

## INH-LOG-SECU

Use this command to inhibit the target module from recording the specified events in the Security log.

### Input syntax

```
INH-LOG-SECU: [<tid>]:<aid>:<ctag>:: [<events>];
```

**Table 17-18**  
**INH-LOG-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always "1-C". <b>Note:</b> Only ETS Comms modules have Security logs.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
events	List of security-related events to inhibit. Events are identified by name, and must be consistent with the event names used with SET-ATTR-SECULOG and RTRV-ATTR-SECULOG commands. <b>Note:</b> A specific security log name must be entered in this command. There is no way to inhibit all the security events with a single command, each of them need to be entered individually.	See .

### Normal response

See "[Standard normal response](#)" on page 16-3.

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## INH-MSG-SECU

Use this command to inhibit one or more autonomous messages associated with security-related alarmed events.

### Input syntax

```
INH-MSG-SECU: [<tid>]:<aid>:<ctag>:: [<events>];
```

**Table 17-19**  
**INH-MSG-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-c”. <b>Note:</b> Only the ETS Comms module generates security-related autonomous messages.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
events	List of the security-related events to inhibit. A null value inhibits all autonomous security messages <b>Note:</b> Events are identified by name, and must be consistent with event names used with RTRV-ALM-SECU and SET-ATTR-SECUALM commands.	See .

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## INH-USER-SECU

Use this command to temporarily disable a users account on the target module.

### Input syntax

```
INH-USER-SECU: [<tid>]:<aid>:<ctag>::<uid>;
```

**Table 17-20**  
**INH-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-C”. Enabling and disabling is done on an "all or nothing" basis, through the ETS Comms module. <b>Note:</b> User accounts cannot be disabled on a per-module basis.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
uid	The identifier of the user account to disable.	Alphanumeric string

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## RTRV-ALM-SECU

Use this command to retrieve the following information from the target module.

- A list of the security-related events that generate alarms.
- The notification code associated with each alarmed security event.
- The type of notification (beep and/or message) associated with the event.

### Input syntax

RTRV-ALM-SECU: [<tid>]:<aid>:<ctag>;

**Table 17-21**  
**RTRV-ALM-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-C”. <b>Note:</b> Only the ETS Comms module generates security-related alarms.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

### Normal response

If there are no security alarms to report, the response is the normal response described in “[Standard normal response](#)” on page 16-3.

If one or more security alarms exist, the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^"<aid>:<name>, [<descr>]:
[<code>], [<type>], , , [<msg>]" <cr> <lf>
```

One <rsplk> is returned for every security alarm that exists for the target module.

**Table 17-22**  
**RTRV-ALM-SECU normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
name	Name that identifies the specific alarm.	Character string
descr	Optional description of the alarm. Optional text description, maximum 64 characters in length enclosed with escape quotes	Character string
code	Notification code associated with the alarm. Possible values are: CR (Critical), MJ (Major), and MN (Minor).	CR MJ MN
type	The type of alarm retrieved.	message
msg	Text of the alarm message. Maximum 64 characters, enclosed with escape quotes.	Character string

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## RTRV-ATTR-SECULOG

Use this command to retrieve the list of security events, which upon occurrence, are recorded in the Security log of the target ETS Comms module.

### Input syntax

```
RTRV-ATTR-SECULOG: [<tid>] :<aid>:<ctag>;
```

**Table 17-23**  
**RTRV-ATTR-SECULOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of ETS Comms module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always “1-C”. <b>Note:</b> Only the ETS Comms module contains a Security log.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

### Normal response

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <aid>:<upslg>,<warn>,<logevent>" <cr> <lf>
```

One <rspblk> is returned for every security alarm that exists for the target module.

**Table 17-24**  
**RTRV-ATTR-SECULOG—normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module.	See “<AID> Access Identifier format” on page 16-5.

**Table 17-24 (continued)**  
**RTRV-ATTR-SECULOG—normal responses**

Parameter	Meaning	Possible Values
upslg	An integer It sets the condition for security log upload. (Number of log entries before upload, elapsed time between uploads.) Not used by the ETS Comms module.	Integer
warn	Security message to display before a session is initiated. Note: Maximum of 20 lines, enclosed in escaped quotes (for example \"warning message\").	Character string
logevent	List of security events to record. <b>Note:</b> Security events are identified by name. Events are delimited by an ampersand (&), and identified by their <seculamtype>.	See “ETS Comms module security-related events” on page 16-13.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## RTRV-HDR

Instructs the target module to reply with a normal response indicating a successfully completed (COMPLD) command.

*Note:* This command is used as a monitoring tool by the network management system.

### Input syntax

RTRV-HDR: [<tid>]::<ctag>;

**Table 17-25**  
**RTRV-HDR possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

**Normal response**

See [“Standard normal response” on page 16-3.](#)

**Error response**

See [“TL1 messages” on page 16-1.](#)

**Error codes**

See [“Error codes” on page 18-31.](#)

**RTRV-STATUS**

Use this command to retrieve the number of user accounts that are logged into the target module, as well as the accounts that are temporarily disabled.

**Input syntax**

```
RTRV-STATUS: [<tid>] : [<aid>] : <ctag>;
```

**Table 17-26**  
**RTRV-STATUS possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4 .</a>
aid	Access identifier of the target module. Null is interpreted as the current date and time. Therefore the command can only be used to return a list of user IDs that are currently logged in and those that are currently disabled. <b>Note:</b> Must be null for the ETS Comms module.	See <a href="#">“&lt;AID&gt; Access Identifier format” on page 16-5.</a>
ctag	Correlation Tag	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a>

**Normal response**

```

<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
^^^"<ocrdat>,<ocrtm>:,<uids>,<inhibited uids>" <cr> <lf>;

```

**Table 17-27**  
**RTRV-STATUS normal responses**

Parameter	Meaning	Possible Values
ocrdat	The current date. The format for <ocrdat> is MOY-DOM. MOY—range of 1 to 12. DOM—range of 1 to 31.	See “ <a href="#">Occurrence date and time (&lt;ocrdat&gt; and &lt;ocrtm&gt;)</a> ” on page 17-7.
ocrtm	The current time. The format for <ocrtm> is HOD-MOH-SOM. HOD—range of 0–23. MOH—range of 0–59. SOM—range of 0–59.	
uids	A list of user ids that are currently logged onto the NE. <b>Note:</b> The list uses an ampersand(&) as a delimiter.	User identifiers
Inhibited uids	The user ids that are currently inhibited. <b>Note:</b> The list uses an ampersand(&) as a delimiter.	Inhibited user identifiers

**Error response**

See “[TL1 messages](#)” on page 16-1.

**Error codes**

See “[Error codes](#)” on page 18-31.

**RTRV-USER-SECU**

Use this command to retrieve the user access privileges (UAPs) assigned to the specified user account. The user’s password cannot be retrieved with this command.

**Input syntax**

```
RTRV-USER-SECU: [<tid>]: [<uid>]:<ctag>;
```

**Table 17-28**  
**RTRV-USER-SECU possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
uid	The identifier of the specified account. <b>Note:</b> A null or "All" value indicates all existing user accounts.	Alphanumeric string
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

**Normal response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^RTRV <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <uid>:,<uap>:<parameter block>" <cr> <lf>
```

One <rspblk> is returned for every user listed in the <uid> field of the command.

**Table 17-29**  
**RTRV-USER-SECU-normal responses**

Parameter	Meaning	Possible Values
uid	The user identifier	Alphanumeric string
uap	The user access privileges (UAP) assigned to the specified account.	See <a href="#">Table 17-1 on page 17-2</a> for possible values.
parameter block	Valid keywords are: <ul style="list-style-type: none"> <li>• PAGE = Password aging interval in days.</li> <li>• PCND = The number of <b>days</b> an existing password can be used before a new password is mandatory.</li> <li>• PCNN = The number of <b>times</b> (log-ins) an existing password can to be used before a new password is mandatory.</li> <li>• UOUT = UID obsolescence, expressed in days. Disable the account if it is not used for the specified number of days.</li> </ul>	PAGE = Integer (1-999) PCND = Integer (1-999) PCNN = Integer (1-999) UOUT = Integer (1-999)

### Error response

See [“TL1 messages” on page 16-1](#).

### Error codes

See [“Error codes” on page 18-31](#).

## SET-ATTR-SECUALM

Use this command to set the attributes (alarm severity, type, text, and type of notification) associated with security-related alarms.

### Input syntax

```
SET-ATTR-SECUALM: [<tid>]:<aid>:<ctag>::<ntfcde>,<secualmtype>,<nottyp>,,<almmsg>;
```

**Table 17-30**  
**SET-ATTR-SECUALM possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module. For the ETS Comms module the value is always "1-C". <b>Note:</b> Only the communications module generates security-related alarms.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
ntfcde	Notification Code Possible values are: CR (Critical), MJ (Major), and MN (Minor).	CR MJ MN
secualmtype	The name by which the alarm is recognized. See .	Character string
nottype	"Message" is the only allowed type of notification".	message
almmsg	Text of the alarm message. <b>Note:</b> Maximum of 40 characters, enclosed in quotes (for example "logout"). .	Character string

#### Normal response

See ["Standard normal response" on page 16-3.](#)

#### Error response

See ["TL1 messages" on page 16-1.](#)

#### Error codes

See ["Error codes" on page 18-31.](#)

## SET-ATTR-SECULOG

Use this command to:

- Specify a list of events which, upon their occurrence, are to be recorded in the security log of the target communications module.
- Set the security warning message displayed to a user during log-in.

**Input syntax**

```
SET-ATTR-SECULOG: [<tid>]:<aid>:<ctag>::<parameter block>;
```

**Table 17-31**  
**SET-ATTR-SECULOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. For the ETS COMMS MODULE the value is always “1-C”. <b>Note:</b> Only the communications module contains a Security log.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
parameter block	Keyword-defined parameter block. Acceptable values are: WARN— Security message to displayed before a session is initiated. (Character string; maximum 20 lines, enclosed in quotes (for example "warning message"). LOGEVENT—A list of security events set to be logged. Events are delimited by an ampersand (&), and identified by their <seculamtype>.	WARN LOGEVENT

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

**SET-SID**

Use this command to change the TID of the target communications module.

**Input syntax**

```
SET-SID: [<tid>] ::<ctag>::<sid>;
```

**Table 17-32**  
**SET-SID possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed	See “<TID> Target Identifier format” on page 16-4 .
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
sid	System Identifier. New Target identifier of the target communications module.	See “TL1 response header” on page 16-2.

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

**System Commands**

This section contains an alphabetical summary of TL1 commands related to retrieving and clearing the logs and rebooting the system.

The command descriptions in this section identify each command, purpose, syntax, variables, and responses.

**INIT-LOG**

This command instructs the target module to clear the contents of the specified log.

**Input syntax**

```
INIT-LOG: [<tid>] :<aid>:<ctag>::<lognm>, ;
```

**Table 17-33**  
**INIT-LOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
lognm	Name of the log to clear. Acceptable value depends on the target module. <b>Note:</b> Only the communications module has a Security log.	EVTLOG SECULOG

#### Normal response

See "Standard normal response" on page 16-3.

#### Error response

See "TL1 messages" on page 16-1.

#### Error codes

See "Error codes" on page 18-31.

## INIT-SYS

This command instructs the target module to perform a warm reboot.

**Note:** The date and time are reset when the Comms module warm reboot. This affects time related functions like password aging. It is very important that date and time are re-entered after the Comms module warm reboot.

#### Input syntax

```
INIT-SYS: [<tid>] :<aid>:<ctag>::<ph>;
```

**Table 17-34**  
**INIT-SYS possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
ph	The degree of thoroughness of the initialization. Must be 0 (warm restart).	0 (zero)

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RTRV-LOG**

This command instructs the target module to return the contents of a log.

**Input syntax**

```
RTRV-LOG: [<tid>]:<aid>:<ctag>::<lognm>;
```

**Table 17-35**  
**RTRV-LOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
lognm	Name of the log to retrieve. Acceptable value depends on the target module. Only the communications module has a Security log.	EVTLOG SECULOG

### Normal response

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
^^^"<lognm>" <cr> <lf>
^^^/*<log entries>*/<cr> <lf>;
```

Where <log entries> is repeated for every event in the log.

When <Lognm> is EVTLOG, <log entries> has the following format:

```
<aid>:<ntfcncde>,<condtype>,<condeff>,<srveff>,<ocrdat>,<ocrtm>,,:<conddescr><cr><lf>
```

When <Lognm> is SECULOG, <log entries> has the following format:

```
<aid>:<ntfcncde>,<secualmtype>,<ntfcntype>,<ocrdat>,<ocrtm>:<conddescr><cr><lf>
```

**Note 1:** The last <log entries> block returned should NOT include the <cr><lf> at the end. Instead, it should have the following format (for EVTLOG):

**Note 2:** <aid>:<ntfcncde>,<condtype>,<condeff>,<srveff>,<ocrdat>,<ocrtm>,,:<conddescr>

**Example response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
^^^"EVTLOG" <cr> <lf>

^^^/*<aid>:<ntfcncde>,<condtype>,<conddeff><serveff>,<ocrdat>,<ocrtm>,,:<conddescr><cr><lf>

^^^^/*<aid>:<ntfcncde>,<condtype>,<conddeff><serveff>,<ocrdat>,<ocrtm>,,:<conddescr><cr><lf>

^^^^/*<aid>:<ntfcncde>,<condtype>,<conddeff><serveff>,<ocrdat>,<ocrtm>,,:<conddescr><cr><lf>
```

**Error response**

See [“TL1 messages” on page 16-1](#).

**Error codes**

See [“Error codes” on page 18-31](#).

**Equipment commands**

This section contains an alphabetical summary of TL1 commands related to provisioning and managing modules.

The command descriptions in this section identify each command, purpose, syntax, variables, and responses.

**ED-EQPT**

Use this command to set operating parameters for, or change the state of, the target module.

You cannot set the operating parameters and change the state of the module in the same command. You must issue two commands if you want to set operating parameters, and change the state.

**General input syntax**

```
ED-EQPT: [<tid>]:<aid>:<ctag>:::[<Module Specific Parameters>]
[:<pst>];
```

**Table 17-36**  
**ED-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module. <b>Note:</b> Null is not an acceptable value.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
pst	Primary State {IS/OOS} An IS value puts a module into an in-service (up) state. <b>Note:</b> Issuing an RST-EQPT command has the same result. An OOS value puts a module into an out-of-service (down) state. <b>Note:</b> Issuing an RMV-EQPT command has the same result.	IS OOS

Where the <Module Specific Parameters> have the following format:

```
[IPADDR=<ipaddr>] , [GTWYADDR=<gtwyaddr>] ,
[SUBNETMASK=<subnetmask>] , [SESSIONTMOUT=<sessiontmout>]
[ , SNMP=<snmp>] [ , SNMPTRAPS=<snmptraps>]
[ , SNMPTRAPDEST1=<snmptrapdest1>]
[ , SNMPTRAPDEST2=<snmptrapdest2>]
[ , SNMPTRAPDEST3=<snmptrapdest3>]
[ , SNMPTRAPDEST4=<snmptrapdest4>]
```

Note : Do not enter 4 or more Module Specific Parameters at the same time using a single ED-EQPT instance command. Repeat the ED-EQPT instance command to edit additional Module Specific Parameters.

**Table 17-37**  
**ETS COMMS MODULE module-specific parameters—possible values**

Parameter	Meaning
IPADDR	<p>Internet Protocol Address</p> <p>This unique identifier consists of four bytes converted into decimal numbers, where each number has an integer value from 0 through 255, inclusive.</p> <p>The changed value takes effect after the module is reset.</p> <p><b>Note:</b> 0.0.0.0 is <b>not</b> a valid address.</p> <p>Default is 10.0.0.2</p>
GTWYADDR	<p>Gateway Internet Protocol (IP) Address</p> <p>This unique identifier consists of four bytes converted into decimal numbers, where each number has an integer value from 0 through 255, inclusive.</p> <p>The changed value takes effect after the module is reset.</p> <p><b>Note:</b> 0.0.0.0 is <b>not</b> a valid address.</p> <p>Default is 0.0.0.0</p>
SUBNETMASK	<p>The Subnet Internet Protocol (IP) Address Mask</p> <p>This unique identifier consists of four bytes converted into decimal numbers, where the first three numbers have an integer value from 0 through 255 (inclusive), and the last number must be less than 255.</p> <p><b>Note:</b> If successfully entered the changed value takes effect after the module is reset.</p> <p>Default is 255.255.255.0</p>
sessiontmout	<p>Session Time-out</p> <p>The timeout interval, in minutes, after which an inactive user session will be automatically terminated by the Comm module. Integer between 1 and 999. The Comm module sends a ^Canc automatic message to notify the OS.</p> <p>Default is 35 minutes.</p>

**Table 17-37 (continued)**  
**ETS COMMS MODULE module-specific parameters—possible values**

Parameter	Meaning
snmp	{Enabled   Disabled} Used to determine if the SNMP agent should be activated. When the field is “disabled” the SNMP agent does not generate traps or respond to SNMP requests. <b>Note:</b> The communications module must be reset to put into effect a change to this field. Default is “disabled”.
snmptraps	{Enabled   Disabled} Used to permit or prevent the generation of traps by the agent. The agent must be enabled in order for this option to be effective. <b>Note:</b> A change to this field is effective immediately. No reset of the communications module is required. Default is “disabled”.
snmptrapdest1-4	Destination IP addresses for SNMP traps Used to tell the agent where to send traps. One trap is sent to each address. Any valid broadcast address can be used. The default address disables the trap destination. <b>Note:</b> The communications module must be reset to put into effect a change to this field. Default address 0.0.0.0

### Normal response

See [“Standard normal response” on page 16-3](#).

### Error response

See [“TL1 messages” on page 16-1](#).

### Error codes

See [“Error codes” on page 18-31](#).

## RMV-EQPT

This command instructs the target module to change from the in-service (IS) state to the out-of-service (OOS) state.

### Input syntax

```
RMV-EQPT: [<tid>]:<aid>:<ctag>::,;
```

**Table 17-38**  
**RMV-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module. <b>Note:</b> A port <aid> is not valid.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RST-EQPT**

Use this command to instruct a module to change from an out-of -service (OOS) state to an in-service (IS) state.

**Input syntax**

```
RST-EQPT: [<tid>]:<aid>:<ctag>::;
```

**Table 17-39**  
**RST-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. <b>Note:</b> A port <aid> is not valid.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4

#### Normal response

See “Standard normal response” on page 16-3.

#### Error response

See “TL1 messages” on page 16-1.

#### Error codes

See “Error codes” on page 18-31.

## RTRV-NETTYPE

This command displays the hardware revision of the shelf into which the target Communication module is installed.

#### Input syntax

RTRV-NETTYPE: [<tid>] ::<ctag>;

**Table 17-40**  
**RTRV-NETTYPE possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
ctag	Correlation tag.	See “<CTAG> Correlation Tag format” on page 16-4

**Normal response:**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^"<aid>:<clei>:
MAC=<mac>, IPADDR=<ipaddr>, GTWYADDR=<gtwyaddr>,
SUBNETMASK=<subnetmask>, HWREV=<hwrev>, MKTPN=<marketingpn>,
EEPROM_VER=<eeprom_version>, BACKPLANE_SN=<sn>,
SHELFTYPE=<shelftype>"
```

**Table 17-41**  
**RTRV-NETTYPE normal responses**

Parameter	Meaning
clei	Common Language Equipment (CLEI) identifier of the target shelf.
mac	Media Access Control (MAC) address of the shelf. Format is xx.xx.xx.xx.xx.xx
ipaddr	IP address for a management interface.
gtwyaddr	The Gateway Internet Protocol (IP) Address. Only applicable to a Comm module.
subnetmask	The Subnet Internet Protocol (IP) Address Mask. Only applicable to a communications module.
hwrev	Shelf hardware revision number. 3-digit integer.
marketingpn	Marketing part number. 20 character alpha-numeric
eeprom_version	Backplane EEPROM version number. 3-digit integer.
sn	Serial Number of the shelf. 35-digit alphanumeric. <b>Note:</b> The backplane serial number matches the shelf serial number.
shelftype	Type of ETS shelf mounting solution: 3100DC for the ETS shelf

**Error response**

See [“TL1 messages” on page 16-1](#).

**Error codes**

See [“Error codes” on page 18-31](#).

## RTRV-TIDS

Returns the global TL1 routing table for the subnetwork.

### Input syntax

```
RTRV-TIDS: [<tid>] :: <ctag>;
```

Table 17-42

### RTRV-TIDS possible values

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
ctag	Correlation tag.	See “<CTAG> Correlation Tag format” on page 16-4

### Normal response

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

One <rspblk> is included in the response for every port in the shelf that has management communications to a far-end TID.

Where <rspblk> has the following format:

```
^^^"TID=<remote_tid>, METRIC=<hops>"<cr> <lf>
```

Table 17-43

### RTRV-TIDS normal response

Parameter	Meaning	Possible Values
remote_tid	Terminal identifier of the remote module.	See “<TID> Target Identifier format” on page 16-4 .
hops	The number of nodes from the selected module to the far-end TID. For example, modules that are connected through one supervisory link are one hop away.	See “<CTAG> Correlation Tag format” on page 16-4.

### Error response

See “TL1 messages” on page 16-1.

**Error codes**

See [“Error codes” on page 18-31](#).

**RTRV-INV**

Returns an inventory of all modules installed in the selected module.

**Input syntax**

RTRV-INV: [<tid>] ::<ctag>;

**Table 17-44**  
**RTRV-INV possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4</a> .
ctag	Correlation tag.	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a>

**Normal response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

One <rspblk> is included in the response for every equipment unit in the shelf.  
<rspblk> has the following format:

```
^^^"<AID>:<MODULETYPE>"<cr><lf>
```

**Table 17-45**  
**RTRV-INV normal response**

Parameter	Meaning	Possible Values
aid	Access identifier that identifies the module. Only module level access identifiers apply; not port-level.	See <a href="#">“&lt;AID&gt; Access Identifier format” on page 16-5</a> .
moduletype	The type of a module.	LP530SM (for the ETS Switch module); COMM100 (for the ETS Comms module);

**Error response**

See [“TL1 messages” on page 16-1](#).

**Error codes**

See [“Error codes” on page 18-31](#).

**RTRV-EQPT**

This command instructs the target module to return configuration and state information.

**Input syntax**

```
RTRV-EQPT: [<tid>]: [<aid>]: <ctag>;
```

**Table 17-46****RTRV-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4</a> .
aid	Access identifier of the target module. <b>Note:</b> A null or "All" value can be used to indicate all equipment units installed in the ETS shelf.	See <a href="#">“&lt;AID&gt; Access Identifier format” on page 16-5</a> .
ctag	Correlation Tag	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a>

**Normal response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^"<aid>:<clei>:MODULETYPE=<moduletype>, MKTPN=<mktpn>,
MNFTPN=<mnftpn>, SN=<sn>, HWREV=<hwrev>, SWBOOTPN=<swbootpn>,
SWPN=<swpn>[, <Module Specific
Parameters>]:<pst>-<pstq>"<cr><lf>
```

**Table 17-47**  
**RTRV-EQPT normal responses**

Parameter	Meaning
moduletype	The type of a module. The valid values are: LP530SM (for ETS Switch module), COMM100 (for ETS Comms module)
<clei>	Common Language Equipment Identifier (CLEI) code of the module.
swbootpn	Software boot part number.
swpn	Application Software part number
mktpn	Marketing part number
mnftpn	Manufacturing part number
sn	Serial Number of a module.
hwrev	Hardware revision of the module. <b>Note:</b> In this release only the ETS Comms module supports this parameter. All others leave the field null.
pst	{ SIOOS}Primary state.
pstq	{ NRIAUIMAIAUMA} Primary State Qualifier.

Where < Module Specific Parameters > has the following format:

```
SESSIONTMOUT=<sessiontmout>, IPADDR=<ipaddr>,
GTWYADDR=<gtwyaddr>, SUBNETMASK=<subnetmask>,
SNMP=<snmp>, SNMPTRAPS=<snmptraps>,
SNMPTRAPDEST1=<snmptrapdest1>,
```

```
SNMPTRAPDEST2=<snmptrapdest2>,
SNMPTRAPDEST3=<snmptrapdest3>,
SNMPTRAPDEST4=<snmptrapdest4>
```

**Table 17-48**  
**RTRV-EQPT—module-specific responses**

Parameter	Meaning
ipaddr	IP address for a management interface. Only applicable to a communications module. Default value is 10.0.0.2.
gtwyaddr	The Gateway Internet Protocol (IP) Address. Only applicable to a communications module. Default value is 0.0.0.0.
subnetmask	The Subnet Internet Protocol (IP) Address Mask. Only applicable to a communications module. Default value is 255.255.255.0.
sessiontmout	The time-out interval, in minutes. Default value is 35 minutes.
snmp	Status of the SNMP manager {Enabled   Disabled} Default is Disabled.
snmptraps	Status of SNMP traps {Enabled   Disabled} Default is Disabled.
snmptrapdest 1-4	Destination IP addresses for SNMP traps. An address of 0.0.0.0 (the default address) disables this trap destination.

### Error response

See [“TL1 messages” on page 16-1.](#)

### Error codes

See [“Error codes” on page 18-31.](#)

## Alarm and event commands

This section provides an alphabetical summary of TL1 commands related to alarms and events.

The command descriptions in this section identify each command, purpose, syntax, variables, and responses.

### ALW-MSG-**{EQPTICOMIAL}**}

Re-enables reporting of autonomous messages for the specified condition type (previously inhibited by the INH-MSG command) for all users/sessions that are logged into the target module.

This command cancels a previous INH-MSG command.

*Note:* This command can only be used to allow the full set of condition types that were previously inhibited. The module does not permit a subset of the inhibited condition types to be allowed. Therefore, you first have to allow all of the currently inhibited conditions, then issue a new INH-MSG command that includes the full list of conditions to inhibit.

A communications module implements the following rules, in this order when executing an ALW-MSG command:

- 1 Message re-activation only occurs on message types that were previously inhibited, Example: <condtype>=LOS, <ntfncde>=MJ.
- 2 Message re-activation only occurs on a group of message types that were previously inhibited.  
Example: <condtype>=PWR, <ntfncde>=default  
Example: <ntfncde>=MN, <condtype>=default
- 3 Execution of an ALW-MSG-<modifier> with default <null> values for <condtype> and <ntfncde> clear all inhibited messages for the specified <modifier>.

**Input syntax**

ALW-MSG- {EQPT | COM | ALL} :  
 [<tid>] : [<aid>] : <ctag>:: [<ntfcncde>] , [<condtype>] , ;

**Table 17-49**  
**ALW-MSG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the ETS shelf.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed). <b>Note:</b> A null value causes all of the autonomous messages with the specified condition code to be allowed.	CR MJ MN NA
condtype	Condition Type The type of event for which autonomous reporting is to be allowed. <b>Note:</b> A null value causes all specified messages that were previously inhibited by an INH-MSG command to be allowed, regardless of event type.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.

**Normal response**

See "[Standard normal response](#)" on page 16-3.

**Error response**

See "[TL1 messages](#)" on page 16-1.

**Error codes**

See "[Error codes](#)" on page 18-31.

## INH-MSG-{EQPT|COM|OCH|ALL}

Use this command to inhibit system reporting of autonomous messages of the specified condition type. This command inhibits messages for all users/sessions logged into the module.

You can retrieve inhibited alarmed and non-alarmed events that are standing conditions by issuing an RTRV-ALM (alarmed events) or RTRV-COND (non-alarmed events) command.

**Note 1:** An ALW-MSG command must be issued in order for the system to resume sending the messages that are inhibited by this command. See the ALW-MSG command for additional information about the behavior of these commands.

**Note 2:** Only one set of “inhibits” can be applied to the module at a time. If you want to inhibit additional messages you first have to allow all the messages, using the ALW-MSG command and then issue an INH-MSG command that includes the full list of conditions to inhibit.

### Input syntax

```
INH-MSG-
{EQPT|COM|OCH|ALL}: [<tid>] : [<aid>] : <ctag>::
[<ntfcncde>] , [<condtype>] , ;
```

**Table 17-50**  
**INH-MSG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the ETS shelf.	See “<AID> Access Identifier format” on page 16-5.

**Table 17-50 (continued)**  
**INH-MSG possible values**

Parameter	Meaning	Possible Values
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
ntfncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed). <b>Note:</b> A null value causes all of the automatic messages with the specified condition code to be inhibited.	CR MJ MN NA
condtype	Condition Type The type of event for which autonomous reporting is to be inhibited. <b>Note:</b> A null value causes all messages specified to be inhibited, regardless of event type.	See “Conditions (alarms and events)” on page 16-6..

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## OPR-ACO-ALL

Use this command to turn off the audible alarm by opening the alarm relay contacts in the communications module. The alarm cut-off (ACO) function relates to alarm relays only. Front panel LEDs, and status information that is accessible through TL1 commands are not affected.

Audible alarms can also be turned off by pressing the ACO button on the communications module front panel.

The OPR-ACO-ALL command acknowledges existing conditions that are contributing to an alarm relay closure. If the ACO button is pressed, the relays remain open until a new alarm condition occurs. If an alarm condition that was cut-off is cleared and then recurs, this constitutes a new alarm and the relays close again. There is no timeout or disable associated with ACOs.

**Note:** Audible alarms are cut off until the alarm condition is cleared.

**Input syntax**

OPR-ACO-ALL:  
 [<tid>]:<aid>:<ctag>;

**Table 17-51**  
**OPR-ACO-ALL possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of communications module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target communications module. "1-C" is the only acceptable value. <b>Note:</b> Only the communications module supports this command, which is the equivalent of pushing the ACO button on the front panel of the module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RTRV-ALM-{EQPTICOMIALL}**

This command instructs the target module to return a list of the current alarm conditions associated with the specified equipment unit(s) or port(s).

Alarm conditions to retrieve can be specified by using input parameters as filters.

**Input syntax**

```
RTRV-ALM-
{EQPT|COM|ALL}: [<tid>]: [<aid>]: <ctag>:: [<ntfcncde>], [<condtype
>], , , , ;
```

**Table 17-52**  
**RTRV-ALM possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the ETS shelf.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor). <b>Note:</b> A null value causes all of the alarms with the specified condition code to be retrieved.	CR MJ MN
condtype	Condition Type The type of alarm events to retrieve. <b>Note:</b> A null value causes all specified alarms to be retrieved.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.

**Normal response**

If there are no alarms to report, then the response is the normal response described on page . However, if one or more alarms exist, the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <aid>, <aidtype>: <ntfcncde>, <condtype>, <srveff>,
<ocrdat>, <ocrtm>, , : <conddescr>, " <cr> <lf>
```

One <rsplk> is returned for every alarm that meets the criteria defined in the command.

**Table 17-53**  
**RTRV-ALM normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
aidtype	Modifier corresponding to the condition.	EQPT COM ALL
ntfncde	Notification Code Acceptable values are: CR (Critical), MJ (Major) and MN (Minor).	CR MJ MN
condtype	Condition Type The type of alarm condition as described in this response block.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.
srveff	The effect on service associated with the condition.	SA, NSA
ocrdat	The date when the event occurred.	See " <a href="#">Occurrence date and time (&lt;ocrdat&gt; and &lt;ocrtm&gt;)</a> " on page 17-7.
ocrtm	The time when the event occurred.	
conddescr	Detailed text description of the alarm condition. Enclosed within escaped quotes (for example \"text\").	Character string

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## RTRV-ATTR-{EQPTICOMIAL}

Use this command to instruct the target module to return the notification code associated with the event specified by the <condtype>.

When the <aid> and <ntfncde> parameters are specified in the command, the corresponding <condtype>(s) are returned.

When the <ntfcncde> and <condtype> are specified in the command, the <aid> of any equipment unit that contains a corresponding attribute is returned.

### Input syntax

```
RTRV-ATTR-
{EQPT|COM|ALL}: [<tid>]: [<aid>]: <ctag>:: [<ntfcncde>], [<condtype
>], , , ;
```

**Table 17-54**  
**RTRV-ATTR possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null value or "All" for the <aid> indicates all units currently installed in the ETS shelf.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed), NR (Not Reported). <b>Note:</b> A null value returns the alarm attributes for all notification codes included in the command.	CR MJ MN NA NR
condtype	Condition Type The type of event whose attributes are to be retrieved. <b>Note:</b> A null value returns the notification attributes for all events on the targeted NE.	See “Conditions (alarms and events)” on page 16-6.

### Normal response

If there are no conditions that meet the filter criteria of the command, the response is the normal response described on page . However, if one or more conditions meet the criteria, the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rsplk> + ;
```

Where <rsplk> has the following format:

## 17-62 Comms module commands

```
^^^" <aid>, <aidtype>: [<ntfcncde>], <condtype>, , <dirn>" <cr> <lf>
```

One <rspblk> is returned for every condition type that meets the filter criteria of the command.

**Table 17-55**  
**RTRV-ATTR normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
aidtype	Modifier corresponding to the condition.	EQPT COM
ntfcncde	Notification Code The notification code associated with the alarm described by <condtype>.	CR MJ MN NA NR CL
condtype	The type of alarm condition described by the response block.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## RTRV-COND-{EQPTICOMIAL}

This command instructs the target module to return its current standing conditions. If more than one value is included in the <aid> field, the response represents the intersection of all specified AIDs. Alternatively, the <condtype> field can be specified in the command, and the command, and the corresponding <aid> is returned in the response.

### Input syntax

```
RTRV-COND- {EQPT|COM|ALL}: [<tid>]: [<aid>]: <ctag>::  
[<condtype>], , , ;
```

**Table 17-56**  
**RTRV-COND possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the ETS shelf.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4
condtype	Condition Type The type of condition to be retrieved.	See "Conditions (alarms and events)" on page 16-6.

### Normal response

If there are no conditions to report, the response is the normal response described on page . However, if one or more conditions exist the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <aid>, <aidtype>: [<ntfcncde>] , <typerep>, [<srveff>] , <ocrdat>
, <ocrtm>, , <dirn>, <conddescr>" <cr> <lf>
```

Multiple <rspblk>s are included, if applicable.

**Table 17-57**  
**RTRV-COND normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module or port.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
aidtype	Modifier corresponding to the condition.	EQPT COM
ntfncde	Notification Code The notification code associated with the condition described by <typerep>.	CR MJ MN NA NR
typerep	The type of condition reported.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6..
srveff	The effect on service associated with the condition described by <typerep>. Valid notification codes are: SA (service-affecting) and NSA (non-service-affecting).	SA NSA
ocrdat	The date when the event occurred.	See " <a href="#">Occurrence date and time (&lt;ocrdat&gt; and &lt;ocrtm&gt;)</a> " on page 17-7.
ocrtm	The time when the event occurred.	
conddescr	A detailed text description of the condition or state. Enclosed within escaped quotes. (i.e., \"text\").	Character string

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

**SET-ATTR-{EQPT|COM}**

This command instructs the target module to set the notification code associated with the specified condition type.

Only standing conditions can be assigned a CR, MJ,MN, or NA notification code. Transient conditions can only be assigned an NA or NR notification code.

**Input syntax**

```
SET-ATTR-
{EQPT|COM}: [<tid>]:<aid>:<ctag>:: [<ntfcncde>] ,
 [<condtype>] , , , ;
```

**Table 17-58**  
**SET-ATTR possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module or port.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed), NR (Not Reported). <b>Note:</b> A null value defaults to NA.	CR MJ MN NA NR
condtype	Condition Type The type of event for which the notification code is set. <b>Note:</b> A null value results in the notification code for all events on the target module to be reset.	See “Conditions (alarms and events)” on page 16-6..

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See [“Error codes” on page 18-31](#).

**Communications module autonomous messages**

The following table lists the autonomous messages that can be generated by the communications module, and the user access privilege that is (UAP) required to receive the message.

**Table 17-59**  
**Autonomous messages**

Message	UAP	Description
CANC	S1	Cancel Session The communications module sends this message to the user when the session times out as a result of inactivity. Time-out is specified by the SESSIONTMOUT parameter. <b>Note:</b> The default time-out is 35 minutes.
REPT^ALM	The UAP depends on whether the ETS Comms module or the ETS Switch Module generates the alarm. For ETS Comms module alarms, the UAP is M1 and for ETS Switch module alarms, the UAP is M0.	Report alarm Modules generate this message to report the occurrence of an alarmed event (notification code CR, MJ or MN), and the message is not inhibited. When the condition ceases to exist, the module generates a corresponding automatic "clear" (CL) message.



**REPT^ALM^{EQPT|COM}**

The module generates this autonomous message to report the occurrence and clearing of alarmed events.

**Output syntax**

```
<cr><lf><lf>
^^^<SID>^<YY-MM-DD>^<HH:MM:SS><cr><lf>
<almcode>^<atag>
REPT ALM^{EQPT|COM}
<cr><lf><rspblk> + ;
```

Where <rspblk> has the format:

```
^^^" [<aid>] :<ntfncncde>,<condtype>,<srveff>,<ocrdat>,<ocrtm>,,:<conddescr>," <cr> <lf>
```

*Note:* One <rspblk> is displayed for each alarm.

**Table 17-60**  
**REP^ALM autonomous message responses**

Parameter	Meaning	Possible Values
almcode	Alarm Code The alarm code associated with the event. *C—Critical Alarm **—Major Alarm *^—Minor Alarm A^—Autonomous message	*C ** *^ A^
atag	Acknowledgement tag	See <a href="#">“Acknowledgement tag &lt;atag&gt;” on page 17-67.</a>
ntfncncde	Notification Code The notification code associated with the alarm described by the condition type.	CR MJ MN CL
condtype	Condition Type The type of alarm condition described in the response block.	See <a href="#">“Conditions (alarms and events)” on page 16-6.</a>
srveff	Service Effect Acceptable values are: SA (service-affecting) and NSA (non-service-affecting).	SA NSA

**Table 17-60 (continued)**  
**REP^ALM autonomous message responses**

Parameter	Meaning	Possible Values
ocrdat	Occurrence Date The date when the event that triggered the alarm condition occurred.	See "Occurrence date and time (<ocrdat> and <ocrtm>)" on page 17-7.
ocrtm	Occurrence Time The time when the event that triggered the alarm condition occurred.	
conddescr	Condition Description. Detailed text description of the alarm. Enclosed within escaped quotes, for example, \"text\".	Character string

## REPT^ALM^SECU

The communications module generates this message in response to an alarmed security-related event. Two events can trigger this message.

- Security log overflow is imminent.
- A user ID (UID) should be disabled due to lack of use.

### Output syntax

```
<cr><lf><lf>
^^^<SID>^<YY-MM-DD>^<HH:MM:SS><cr><lf>
<almcde><atag>^REPT^ALM^SECU<cr><lf>

<rspblk> + ;
```

Where <rspblk> has the format:

```
^^^"<aid>:<ntfcncde>,<secualmtype>"<cr><lf>
```

One <rsplk> is displayed for each alarm.

**Table 17-61**  
**REPT^ALM^SECU autonomous message normal responses**

Parameter	Meaning	Possible Values
almcde	Alarm Code The alarm code associated with the event. *C = Critical Alarm ** = Major Alarm *^ = Minor Alarm A^ = Automatic message	*C ** *^ A^
atag	Acknowledgement tag	See <a href="#">“Acknowledgement tag &lt;atag&gt;” on page 17-67.</a>
aid	Access Identifier The value of the <aid> depends on the value of the <secualmtype> parameter. If <secualmtype> is T-UIDAGE, the <aid> is the user ID that should be disabled. If <secualmtype> is LOGBUFR90-SECULOG or LOGBUFROVFL-SECULOG, the <aid> is the name of the Security log.	Character string
ntfncde	Notification Code The notification code associated with the event. Possible values are: CR (Critical), MJ (Major), and MN (Minor).	CR MJ MN
secualmtype	Security Alarm Type Value depends on the type of alarm. Possible values are: <ul style="list-style-type: none"> <li>• LOGBUFR90-SECULOG—Security log is 90% of capacity.</li> <li>• LOGBUFROVFL-SECULOG—Security log is full</li> <li>• T-UIDAGE—The user account identified by the UID in the message should be disabled due to lack of use.</li> </ul>	<ul style="list-style-type: none"> <li>• LOGBUFR90-SECULOG</li> <li>• LOGBUFROVFL-SECULOG</li> <li>• T-UIDAGE</li> </ul>

**REPT^EVT^{EQPT|COM}**

The module generates this autonomous message to report non-alarmed events.

If an event with a user-provisionable alarm level defaults to, or is provisioned as a non-alarmed (NA) event, it is reported in a REPT^EVT message.

REPT^EVT messages are also generated when a:

- standing conditions clears
- transient conditions occurs

**Output syntax**

```
<cr> <lf> <lf>
^^^<SID>^<YY-MM-DD>^<HH:MM:SS><cr><lf>
A^^<atag>^REPT^EVT^{EQPT|COM}<cr><lf>

<rspblk> + ;
```

Where <rspblk> has the format:

```
^^^" [<aid>] :<condtype>, <condeff>,
<ocrdat>, <ocrtm>, , , , :<conddescr>," <cr> <lf>
```

One <rspblk> is displayed for each event.

**Table 17-62**  
**REPT^EVT autonomous message responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module or port.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
atag	Acknowledgement tag	See " <a href="#">Acknowledgement tag &lt;atag&gt;</a> " on page 17-67.
condtype	Condition Type Reports the type of alarm condition described in the response block.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.
condeff	Condition Effect Reports the effect of the event on the condition of the module.	

**Table 17-62 (continued)**  
**REPT^EVT autonomous message responses**

Parameter	Meaning	Possible Values
ocrdat	Occurrence Date The date when the event occurred.	See “Occurrence date and time (<ocrdat> and <ocrtm>)” on page 17-7.
ocrtm	Occurrence Time The time when the event occurred.	
conddescr	Condition Description Detailed text description of the alarm. Enclosed within escaped quotes, for example \"text\".	Character string

## REPT^EVT^SESSION

The communications module generates this autonomous message when a TL1 session is initiated.

Two non-alarmed events can trigger this message.

- A user requests a session with the communications module. The module is required to send an advisory warning message (regarding unauthorized entry/use) before granting system access to the user.
- If user's password is approaching its expiration date, or has expired, the user receives a message with the appropriate information.

**Note:** If the module allows a grace period during which the user can continue to use the password, this information is included in the message.

**Output syntax**

```

<cr><lf><lf>
^^^<SID>^<YY-MM-DD>^<HH:MM:SS><cr><lf>
A^^<atag>^REPT^EVT^SESSION<cr><lf>
^^^"<aid>:<exp>, [<pcn>]"<cr><lf>
^^^/*Free format text regarding access warning*/<cr><lf>;

```

**Table 17-63**  
**REPT^EVT^SESSION autonomous message possible responses**

Parameter	Meaning	Possible Values
aid	<p>Access Identifier</p> <p>This message can only originate from the communications module.</p> <p><b>Note:</b> The value is always null for ETS Comms module.</p>	Null
exp	<p>Expired</p> <p>Indicates the status of the user's password. Possible values are:</p> <ul style="list-style-type: none"> <li>• NO—The password does not require updating.</li> <li>• YES—The password requires updating immediately or in the near future.</li> </ul>	NO YES
pcn	<p>This parameter appears if the value of &lt;exp&gt; is "YES"</p> <ul style="list-style-type: none"> <li>• <b>and if</b> the module allows a grace period for password updates</li> <li>• <b>and</b> the grace period has not expired.</li> </ul> <p>Under these conditions, the &lt;pcn&gt; parameter shows the number of days remaining during which the existing password is valid.</p> <p><b>Note:</b> Refer to GR-835-CORE.</p>	Integer



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# Switch module commands

---

## Command summary

The following table summarizes the TL1 commands that are applicable to the ETS Switch module. The UAP column lists the user access privilege required to execute each command. For details about user access privileges, see the installation and user's manual provided with the communications module.

**Table 18-1**  
**Summary of ETS Switch module TL1 commands**

Command	UAP	Description
System Commands		
INIT-LOG	M4	Clear the specified log.
INIT-SYS	P4	Initiate a warm boot of the unit.
RTRV-LOG	M1	Instructs the target module to return the entries in the specified log.
Equipment Commands		
ED-EQPT	P4	Edit the module specific equipment information.
ED-OCH	P4	Instructs the module to set configuration parameters that are specific to the optical port
RMV-EQPT	P4	Change the state of the target module to out-of-service (OOS). <b>Note:</b> This command automatically inhibits all autonomous messages.
RMV-OCH	P4	Instructs the specified port to change from the in-service (IS) state to the out-of-service (OOS) state so the maintenance activities can be performed.
RST-EQPT	P4	Restore the target module to an in-service (IS) state. <b>Note:</b> Autonomous messages are resumed.

**Table 18-1 (continued)**  
**Summary of ETS Switch module TL1 commands**

Command	UAP	Description
RST-OCH	P4	Instructs the specified port to change from the in-service (IS) state to the out-of-service (OOS) state so the maintenance activities can be performed.
RTRV-EQPT	P1	Instructs the target module to return the module specific equipment information.
RTRV-OCH	P1	Instruct the target port to return its state information.
Protection Switching Commands		
OPR-PROTNSW	P4	Instruct the target ETS Switch module to perform the switch specified in the command. <b>Note:</b> In all cases, the unit enters manual mode and remains in manual mode until it receives a RLS-PROTNSW-OCH command.
RLS-PROTNSW	P4	Releases the protection switch command and returns the ETS Switch module to automatic mode.
Alarm and Event Commands		
ALW-MSG	M4	Instruct the target module to allow the previously inhibited autonomous messages. <b>Note:</b> Applies to the current user session only.
INH-MSG	M4	Instructs the target module to stop sending the specified autonomous messages for all the <aid>s listed. <b>Note:</b> Applies to the current user session only.
RTRV-ALM	M1	Display the alarm conditions for the target module. If a ETS Switch module is unreachable, the associated communications module responds with the current alarm conditions of the module.
RTRV-ATTR	P4	Instructs the target module to return the notification code associated with the specified events.
RTRV-COND	M1	Instructs the target module to return the current standing conditions of the specified modules.
SET-ATTR	P4	Set the notification codes for the specified condition types, used by the specified modules.

## System commands

This section contains an alphabetical summary of TL1 commands related to, retrieving and clearing the event logs and rebooting the system.

This section identifies each command, and describes the command purpose, syntax, variables, and responses.

## INIT-LOG

This command instructs the target module to clear the contents of the specified log.

*Note:* The ETS Switch module contains only the Event log.

### Input syntax

```
INIT-LOG: [<tid>] : [<aid>] : <ctag> : : <lognm> , ;
```

**Table 18-2**  
**INIT-LOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4.
aid	Access identifier of the target module.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
lognm	Name of the log to clear. Depends on the unit addressed by the <aid>. <b>Note:</b> For the ETS Switch module, only EVTLOG is valid.	EVTLOG

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## INIT-SYS

This command instructs the target module to perform a warm reboot.

### Input syntax

```
INIT-SYS: [<tid>]:<aid>:<ctag>::<ph>;
```

**Table 18-3**  
**INIT-SYS possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4.
aid	Access identifier of the target module.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
ph	The degree of thoroughness of the initialization. Must be 0 (warm restart)	0 (zero)

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## RTRV-LOG

This command instructs the target module to return the contents of a log.

*Note:* The ETS Switch module contains only the Event log.

### Input syntax

```
RTRV-LOG: [<tid>]: [<aid>]:<ctag>::<lognm>;
```

**Table 18-4**  
**RTRV-LOG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4.
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.
lognm	Name of the log to retrieve. Depends on the unit addressed by the <aid>. For the ETS Switch module, only EVTLOG is valid. <b>Note:</b> If the <aid> is null, the module returns all the logs related to the specified <lognm>.	EVTLOG

### Normal response

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
^^^"<lognm>" <cr> <lf>
^^^/* <log entries> */ <cr><lf>
```

Where:

<log entries> is repeated for every event in the log

<lognm> is EVTLOG

<log entries> has the following format:

```
<aid>:<ntfcncde>,<condtype>,<condeff>,<srveff>,<ocrdat>,<ocrtm>,,:<conddescr> <cr> <lf>
```

**Note:** The last <log entries> block does not include the <cr> <lf> at the end.

### Error response

See "TL1 messages" on page 16-1.

### Error codes

See "Error codes" on page 18-31.

## Equipment commands

This section contains an alphabetical summary of TL1 commands related to editing and provisioning the ETS Switch module.

The command descriptions in this section identify each command, and describe the command purpose, syntax, variables, and responses.

### ED-EQPT

Use this command to set operating parameters for, or change the state of, the target module.

**Note:** You cannot set operating parameters and change the state of the module in the same ED-EQPT command. You must issue two commands to set operating parameters and change the state of the module.

#### Input syntax

```
ED-EQPT: [<tid>]:<aid>:<ctag>:::[<Module Specific Parameters>]
[:<pst>];
```

**Table 18-5**  
**ED-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4.
aid	Access identifier of the target module. <b>Note:</b> Null and "All" <b>are not</b> acceptable values for the <aid>.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.
pst	Primary state {IS OOS} An IS value puts a module in an in-service (up) state. <b>Note:</b> Issuing an RST-EQPT command has the same result. An OOS value puts the module in an out-of-service (down) state. <b>Note:</b> Issuing an RMV-EQPT command has the same result.	IS OOS

Where the <Module Specific Parameters> has the following format:

```
APS=<aps>, [SWMODE=<swmode>], RVRTV=<rvrtv>, UWSR
=<uwsr>, LWSR=<lwsr>, SRPL=<srpl>, SENSEPRIOR
```

**Table 18-6**  
**ED-EQPT— ETS Switch module-specific parameters**

Parameter	Meaning	Possible Values
APS	Automatic Protection Switching Enables (ON) and disables (OFF) automatic operating mode.	ON OFF
SWMODE	Switching Mode Sets the automatic switching mode to relative-threshold (window switching) or fixed-threshold (absolute switching). If the module is in manual mode, this command does not change it to auto mode. <b>Note:</b> The factory default value is FIXED.	RELATIVE FIXED
RVRTV	Revertive Enables (Y) or disables (N) the automatic switch-back (revertive) feature. <b>Note:</b> The factory default value is disabled (N).	Y N
UWSR	Upper Window Switching Range Expressed in dB. <b>Note:</b> Acceptable range is 6 through 29.	Integer
LWSR	Lower Window Switching Range Expressed in dB. <b>Note:</b> Acceptable range is 6 through 29	Integer
SRPL	Set Reference Power Level Saves the current input power on each optical path as the reference power level for window switching (WS) mode. Y saves the current level. N rejects the current level	Y N
SENSEPRI OR	Sense-priority mode Enables (ON) and disables (OFF) the sense-priority operating mode <b>Note:</b> This is not supported in rel. 7.0	ON OFF

**Normal response**

See [“Standard normal response” on page 16-3.](#)

**Error response**

See [“TL1 messages” on page 16-1.](#)

**Error codes**

See [“Error codes” on page 18-31.](#)

## ED-OCH

Instructs the module to set configuration parameters that are specific to the optical port specified by the <aid>.

### Input syntax

```
ED-OCH: [<tid>]:<aid>:<ctag>:::[:<pst>];
```

**Table 18-7**

**ED-OCH possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target port on the module.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4.
pst	Primary State {IS OOS} The value IS puts a port administratively up. Alternatively, you can accomplish the same result with the RST-OCH command. The value OOS puts a port administratively down. Alternatively, you can accomplish the same result with the RST-OCH command.	IS OOS

### Normal response

See "[Standard normal response](#)" on page 16-3.

### Error response

See "[TL1 messages](#)" on page 16-1.

### Error codes

See "[Error codes](#)" on page 18-31.

## RMV-EQPT

This command instructs the target module to change from the in-service (IS) state to the out-of-service (OSS-AUMA or OOS-MA) state.

### Input syntax

```
RMV-EQPT: [<tid>]:<aid>:<ctag>:::, ;
```

**Table 18-8**  
**RMV-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RMV-OCH**

This command instructs the specified port to change from the in-service (IS) state to the out-of-service (OOS) state so that maintenance activities can be performed.

**Input syntax**

RMV-OCH: [<tid>]:<aid>:<ctag>::,;

**Table 18-9**  
**RMV-OCH possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the communications module to which the command applies.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target port on the module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RST-EQPT**

Use this command to instruct a module to change from an out-of-service (OOS) state to an in-service (IS) state.

**Input syntax**

```
RST-EQPT: [<tid>]:<aid>:<ctag>::;
```

**Table 18-10**  
**RST-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

**RST-OCH**

Use this command to instruct a port to change from its current out-of-service (OOS) state to an in-service state.

**Input syntax**

RST-OCH: [<tid>]:<aid>:<ctag>::;

**Table 18-11**  
**RST-OCH Possible Values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target port on the module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.

**Normal response**

See "Standard normal response" on page 16-3.

**Error response**

See "TL1 messages" on page 16-1.

**Error codes**

See "Error codes" on page 18-31.

**RTRV-EQPT**

This command instructs the target module to return module-specific configuration information.

**Input syntax**

RTRV-EQPT: [<tid>] : [<aid>] : <ctag>;

**Table 18-12**  
**RTRV-EQPT possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of the target module.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.

**Normal response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^"<aid>:<clei>:MODULETYPE=<moduletype>,MKTPN=<marketingpn>,
MNFTPN=<mnftpn>,SN=<sn>,SWBOOTPN=<swbootpn>,SWPN=<swpn>,
[,<Module Specific Parameters>]:<pst>-<pstq>"<cr><lf>
```

**Table 18-13**  
**RTRV-EQPT normal responses**

Parameter	Meaning	Possible Values
MODULETY PE	The type of module	LP530SM (for the ETS Switch module)
<clei>	CLEI code of the module	Character string
SWBOOTPN	Software boot part number	Character string
SWPN	Software part number	Character string
MKTPN	Marketing part number	Character string
MNFTPN	Manufacturing part number	Character string

18-14 Switch module commands

**Table 18-13 (continued)**  
**RTRV-EQPT normal responses**

Parameter	Meaning	Possible Values
SN	Serial Number of a module	Character string
pst	Primary State	IS OOS
pstq	Primary State Qualifier	NR AU MA AUMA

Where the <Module Specific Parameters> have the following format:

APS=<aps>, SWMODE=<swmode>, RVRTV=<rvrtv>, UWSR=<uwsr>,  
LWSR=<lwsr>, ACTPATH=<actpath>, SENSEPRIOR

**Table 18-14**  
**RTV-EQPT— ETS Switch module-specific responses**

Parameter	Meaning	Possible Values
APS	Automatic Protection Switching Reports if the module is operating in automatic mode. ON = automatic mode OFF = manual mode <b>Note:</b> The operating mode can be changed through the OPR-PROTNSWOCH command or by pressing the <b>AUTO/MAN</b> button on the module front panel.	ON OFF
SWMODE	Switching Mode Reports the currently selected switching mode. RELATIVE = window switching (WS) mode FIXED = absolute switching (AS) mode <b>Note:</b> The factory default value is FIXED.	RELATIVE FIXED
RVRTV	Revertive Reports the current state of the automatic switch-back feature: enabled (Y), or disabled (N). <b>Note:</b> The factory default value is N.	Y N

**Table 18-14 (continued)**  
**RTV-EQPT— ETS Switch module-specific responses**

Parameter	Meaning	Possible Values
UWSR	Upper Window Switching Range (dB) Reports the upper switching threshold currently set for use in relative-threshold switching (window switching (WS)) mode. <b>Note:</b> Expressed in dB. The default value is 6.	Integer
LWSR	Lower Window Switching Range (dB) Reports the lower switching threshold currently set for use in relative-threshold switching (WS) mode. <b>Note:</b> Expressed in dB. The default value is 6.	Integer
ACTPATH	Active Path Reports the current active path: primary (PRI), or secondary (SEC).	PRI SEC
SENSEPRIOR	Sense-priority operating mode Reports if the module is operating in sense-priority mode. ON = the module is operating in sense-priority mode. OFF = the module is not operating in sense-priority mode. <b>Note:</b> This is not supported in rel. 7.0	ON OFF

### Error response

See [“TL1 messages” on page 16-1](#).

### Error codes

See [“Error codes” on page 18-31](#).

## RTRV-OCH

This command instructs the target module to return configuration and state information for the specified port.

### Input syntax

```
RTRV-OCH: [<tid>]:<aid>:<ctag>;
```

**Table 18-15**  
**RTRV-OCH possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See "<TID> Target Identifier format" on page 16-4 .
aid	Access identifier of target module and optical port.	See "<AID> Access Identifier format" on page 16-5.
ctag	Correlation Tag	See "<CTAG> Correlation Tag format" on page 16-4.

**Normal response**

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^"<aid>:<PORTTYPE>=<porttype>[,<Port Specific Parameters>]:
<pst>-<pstq>[,<sst>]"<cr> <lf>
```

**Table 18-16**  
**RTRV-OCH normal responses**

Parameter	Meaning	Possible Values
porttype	Port Type Identifies the specific port on a module.	Primary port Secondary port

**Table 18-16 (continued)**  
**RTRV-OCH normal responses**

Parameter	Meaning	Possible Values
pst	Primary State	IS OOS
pstq	Primary State Qualifier	NR AU MA AUMA
sst	Secondary State	WRK STBYH: Standby Hot – an alternate optical channel exists, and is administratively available. STBYI: an alternate optical channel exists, but has been administratively inhibited. NBK: no alternate optical channel exists (i.e. alternate path failed).

Where <Port Specific Parameters> has the following format:

[INPUTPWR=<inputpwr>] , [UWSLTH=<uwslth>] , [LWSLTH=<lwslth>] ,  
[RPL=<rpl>]

**Table 18-17**  
**RTRV-OCH—ETS Switch module port-specific normal responses**

Parameter	Meaning	Possible Values
inputpwr	Input Power Level The measured power of the signal received on the specified port, expressed in dBm.	Real number
uwslth	Upper Window Switching Limit Threshold The power level that defines the high power limit of the window switching range, expressed in dBm.	Real number
lwslth	Lower Window Switching Limit Threshold The power level that defines the low power limit of the window switching range, expressed in dBm. <b>Note:</b> LWSLTH = RPL + LWSR	Real number
rpl	Reference Power Level The reference power level used by the module to determine the upper and lower limits of the window switching range, expressed in dBm.	Real number

### **Error response**

See “TL1 messages” on page 16-1.

### **Error codes**

See “Error codes” on page 18-31.

## **Protection switching commands**

This section provides an alphabetical summary of TL1 commands related to protection switching.

The command descriptions in this chapter identify each command, and describe the command purpose, syntax, variables, and responses.

### **OPR-PROTNSW-OCH**

This command instructs the target module to perform one of the following functions:

- a manual switch to the alternate line, if the alternate line is operational
- a forced switch to the secondary line only if the secondary line is operational
- a forced switch to the working line unless it is locked out
- enter lockout mode without switching paths (disables automatic protection switching)

**Note:** When a force or lockout command is executed, automatic protection switching is disabled and the module remains in manual mode until a RLS-PROTNSW-OCH command is received. The module continues to execute subsequent OPR-PROTNSW-OCH commands that have a higher priority.

**Input syntax**

```
OPR-PROTNSW-OCH: [<tid>]:<aid>:<ctag>::<sc>;
```

**Table 18-18**  
**OPR-PROTNSW-OCH possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target port on the module.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
sc	<p>Switch Command</p> <ul style="list-style-type: none"> <li>• MAN—switch to the alternate line only if the line is not experiencing a loss of signal (LOS). Module rejects the command if there is an LOS on the alternate line. The module remains in automatic mode, and reversion (auto-switch-back) is disabled until a RLS-PROTNSW-OCH command is executed.</li> <li>• FRCD—switch to the alternate line and change operating mode to manual. The module rejects the command if the &lt;aid&gt; identifies the secondary line and the secondary line is experiencing an LOS.</li> </ul> <p><b>Note:</b> The module accepts a forced switch to a failed primary line.</p> <ul style="list-style-type: none"> <li>• LOCKOUT—Changes the operating mode to manual, with service is locked-on to the primary line, and locked-out from the secondary line. The behavior does not change regardless of the port specified in the &lt;aid&gt;. The module rejects subsequent OPR-PROTNSW-OCH commands until it receives a RLS-PROTNSW-OCH command.</li> </ul> <p><b>Note:</b> Traffic is lost if the active primary or the active secondary line fails while a lockout is in effect.</p>	<p>MAN</p> <p>FRCD</p> <p>LOCKOUT</p>

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See [“Error codes” on page 18-31](#).

**RLS-PROTNSW-OCH**

This command instructs the target module to return to automatic switching mode after a OPR-PROTNSW-OCH command was issued. The module resumes the switching mode (window or absolute) that was in effect when it received the OPR-PROTNSW-OCH command.

A RTRV-EQPT command reports the module's current switching mode.

**Input syntax**

```
RLS-PROTNSW-OCH: [<tid>] :<aid>:<ctag>::;
```

**Table 18-19**  
**RLS-PROTNSW-OCH possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See <a href="#">“&lt;TID&gt; Target Identifier format” on page 16-4</a> .
aid	Access identifier of the target port on the module.	See <a href="#">“&lt;AID&gt; Access Identifier format” on page 16-5</a> .
ctag	Correlation Tag	See <a href="#">“&lt;CTAG&gt; Correlation Tag format” on page 16-4</a> .

**Normal response**

See [“Standard normal response” on page 16-3](#).

**Error response**

See [“TL1 messages” on page 16-1](#).

**Error codes**

See [“Error codes” on page 18-31](#).

**Alarm and event commands**

This section provides an alphabetical summary of TL1 commands related to alarms and events.

The command descriptions in this section identify each command, and describe the command purpose, syntax, variables, and responses.

**ALW-MSG-{EQPT|COM|OCH|ALL}**

Re-enables reporting of autonomous messages for the specified condition type (previously inhibited by the INH-MSG command) for all users/sessions that are logged-in to the target module.

A ETS Switch module implements these rules when executing an ALW-MSG command:

- 1 Message re-activation only occurs on message types that were previously inhibited, Example: <condtype>=LOS, <ntfcncde>=MJ.
- 2 Message re-activation only occurs on a group of message types that were previously inhibited.  
Example: <condtype>=LOS, <ntfcncde>=default  
Example: <ntfcncde>=MJ, <condtype>=default
- 3 Execution of an ALW-MSG-<modifier> with default <null> values for <condtype> and <ntfcncde> clears all inhibited messages for the specified <modifier>.

**Input syntax**

```
ALW-MSG-
{EQPT|COM|OCH|ALL}: [<tid>]: [<aid>]: <ctag>:: [<ntfcncde>], [<cond
type>], ;
```

**Table 18-20**  
**ALW-MSG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null value or "All" value for the <aid> indicates all units currently installed in the shelf.	See “<AID> Access Identifier format” on page 16-5.

**Table 18-20 (continued)**  
**ALW-MSG possible values**

Parameter	Meaning	Possible Values
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
ntfncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed) <b>Note:</b> A null value allows reporting of all autonomous messages with the specified condition code.	CR MJ MN NA
condtype	Condition Type The type of event for which autonomous reporting is to be allowed. <b>Note:</b> A null value allows reporting of all specified messages that were previously inhibited, regardless of the event type.	See “Conditions (alarms and events)” on page 16-6.

### Normal response

See “Standard normal response” on page 16-3.

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

## INH-MSG-{EQPTICOMIOCHIAL}

Use this command to inhibit reporting of autonomous messages of the specified condition type. This command inhibits messages for all users/sessions logged-in to the module.

You can still retrieve inhibited events that are standing conditions by issuing an RTRV-ALM (alarmed events) or RTRV-COND (non-alarmed events) command.

**Input syntax**

```
INH-MSG-
{EQPT|COM|OCH|ALL}: [<tid>]: [<aid>]: <ctag>:: [<ntfncde>],
 [<condtype>], ;
```

**Table 18-21**  
**INH-MSG possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 ..
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the shelf.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
ntfncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed) <b>Note:</b> A null value inhibits reporting of all the autonomous messages with the specified condition code.	CR MJ MN NA
condtype	Condition Type The type of event for which autonomous reporting is allowed. <b>Note:</b> A null value inhibits reporting of all messages specified, regardless of event type.	See “Conditions (alarms and events)” on page 16-6.

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

## RTRV-ALM-**{EQPTICOMIOCHIAL}**}

This command instructs the target module to return the current alarm conditions associated with one or more equipment unit(s) or port(s).

Alarm conditions to retrieve can be specified by using input parameters as filters.

### Input syntax

```
RTRV-ALM-
{EQPT|COM|OCH|ALL}: [<tid>] : [<aid>] : <ctag>:: [<ntfcncde>] ,
 [<condtype>] , , , , ;
```

**Table 18-22**  
RTRV-ALM possible values

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See " <a href="#">&lt;TID&gt; Target Identifier format</a> " on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all units currently installed in the shelf.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
ctag	Correlation Tag	See " <a href="#">&lt;CTAG&gt; Correlation Tag format</a> " on page 16-4.
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor) <b>Note:</b> A null value retrieves all of the alarms.	CR MJ MN
condtype	Condition Type The type of alarm events to retrieve.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.

### Normal response

If there are no alarms to report, then the response is the normal response described in "[Standard normal response](#)" on page 16-3. However, if one or more alarms exist, the following response format is used:

```

<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rsplk> + ;

```

Where <rsplk> has the following format:

```

^^^" <aid>, <aidtype>: <ntfcncde>, <condtype>, <srveff>,
<ocrdat>, <ocrtm>, , : <conddescr>, " <cr> <lf>

```

One <rsplk> is returned for every alarm that meets the criteria defined in the command.

**Table 18-23**  
**RTRV-ALM normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module.	See " <a href="#">&lt;AID&gt; Access Identifier format</a> " on page 16-5.
aidtype	Modifier corresponding to the condition.	EQPT COM OCH
ntfcncde	Notification Code Acceptable values are: CR (Critical), MJ (Major) and MN (Minor).	CR MJ MN
condtype	Condition Type The type of alarm condition described in this response block.	See " <a href="#">Conditions (alarms and events)</a> " on page 16-6.
srveff	Service Effect The effect on service that is associated with this condition.	SA, NSA
ocrdat	Occurrence Date The date when the event occurred that triggered the alarm condition.	mm-dd
ocrtm	Occurrence Time The time when the event occurred that triggered the alarm condition.	hh-mm-ss
conddescr	Condition Description Detailed text description of the alarm condition.	Character string

**Error response**

See “[TL1 messages](#)” on page 16-1.

**Error codes**

See “[Error codes](#)” on page 18-31.

**RTRV-ATTR-{EQPT|COM|IOCH|ALL}**

Use this command to instruct the target module to return the notification code associated with the event specified in the <condtype>.

When the <aid> and <ntfcnede> parameters are specified in the input command, the corresponding <condtype>(s) are returned.

When the <ntfcnede> and <condtype> are specified in the command, the system returns the <aid> of any equipment that contains a corresponding attribute.

**Input syntax**

```
RTRV-ATTR-
{EQPT|COM|OCH|ALL}: [<tid>] : [<aid>] : <ctag>:: [<ntfcnede>] ,
 [<condtype>] , , , ;
```

**Table 18-24**  
**RTRV-ATTR possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “ <a href="#">&lt;TID&gt; Target Identifier format</a> ” on page 16-4 .
aid	Access identifier of the target module or port. <b>Note:</b> A null or "All" value for the <aid> indicates all of the modules currently installed in the shelf.	See “ <a href="#">&lt;AID&gt; Access Identifier format</a> ” on page 16-5.
ctag	Correlation Tag	See “ <a href="#">&lt;CTAG&gt; Correlation Tag format</a> ” on page 16-4.
ntfcnede	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed), NR (Not Reported).	CR MJ MN NA NR
condtype	Condition Type The type of event whose attributes are to be retrieved.	See “ <a href="#">Conditions (alarms and events)</a> ” on page 16-6.

**Normal response**

If there are no conditions that meet the filter criteria of the input command, then the response is the normal response described in [“Standard normal response” on page 16-3](#). However, if one or more conditions meet the criteria, the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <aid>, <aidtype>: [<ntfcncde>], <condtype>, , <dirn>" <cr> <lf>
```

One <rspblk> is returned for every condition type that meets the filter criteria of the input command.

**Table 18-25**  
**RTRV-ATTR normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier that identifies the module for which the alarm specified by <condtype> applies.	See <a href="#">“&lt;AID&gt; Access Identifier format” on page 16-5</a> .
aidtype	Modifier corresponding to the condition.	EQPT COM OCH
ntfcncde	Notification Code The notification code associated with the alarm described by <condtype>. All notification codes are valid: CR (Critical), MJ(Major) and MN (Minor), NA (Not Alarmed), NR (Not Reported).	CR MJ MN NA NR
condtype	Condition Type The type of alarm condition described in this response block.	See <a href="#">“Conditions (alarms and events)” on page 16-6</a> .
dirn	Direction. <b>Note:</b> Not applicable to modules.	Not Applicable

**Error response**

See [“TL1 messages” on page 16-1](#).

**Error codes**

See [“Error codes” on page 18-31](#).

**RTRV-COND-{EQPT|COM|OCH|ALL}**

This command instructs the target module to return its current standing conditions. If more than one value is included in the <aid> field, the response represents the intersection of all specified AIDs. Alternatively, the <condtype> field can be specified in the command, and the system returns the corresponding <aid> in the response.

**Input syntax**

```
RTRV-COND-
{EQPT|COM|OCH|ALL}: [<tid>]: [<aid>]: <ctag>:: [<condtype>], , , ;
```

**Table 18-26**  
**RTRV-COND possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module. <b>Note:</b> A null or "All" value for the <aid> indicates all the units currently installed in the shelf.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
condtype	Condition Type The type of condition to retrieve.	See “Conditions (alarms and events)” on page 16-6.

**Normal response**

If there are no conditions to report, the response is the normal response described in “[Standard normal response](#)” on page 16-3. However, if one or more conditions exist, the following response format is used:

```
<cr> <lf> <lf>
^^^<rsphdr> <cr> <lf>
M^^<ctag>^COMPLD <cr> <lf>
<rspblk> + ;
```

Where <rspblk> has the following format:

```
^^^" <aid>, <aidtype>: [<ntfncnde>], typerep>, [<srveff>], <ocrdat>,
<ocrtm>, , , <dirn>, , , <conddescr>" <cr> <lf>
```

Multiple <rspblk>s are included, if applicable.

**Table 18-27**  
**RTRV-COND normal responses**

Parameter	Meaning	Possible Values
aid	Access identifier of the target module or port.	See “<AID> Access Identifier format” on page 16-5.
aidtype	Modifier corresponding to the condition.	EQPT COM OCH
ntfncde	Notification Code The notification code associated with the condition described by <typerp>. All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed), and NR (Not Reported).	CR MJ MN NA NR
typerp	The type of condition reported.	See “Conditions (alarms and events)” on page 16-6.
srveff	Service Effect The effect on service associated with the condition described by <typerp>. Acceptable values are SA (service-affecting) and NSA (non-service-affecting).	SA NSA
ocrdat	Occurrence Date The date when the event occurred that triggered the condition.	mm-dd
ocrtm	Occurrence Time The time when the event occurred that triggered the condition.	hh-mm-ss
dirn	Direction <b>Note:</b> Not applicable to modules.	Not Applicable
conddescr	A detailed text description of the condition or state.	Character string

### Error response

See “TL1 messages” on page 16-1.

### Error codes

See “Error codes” on page 18-31.

**SET-ATTR-{EQPT|COM|OCH}**

This command instructs the target module to set the notification code associated with the specified condition type.

**Input syntax**

```
SET-ATTR-
{EQPT|COM|OCH}: [<tid>]: [<aid>]: <ctag>:: [<ntfcncde>],
 [<condtype>], , , ;
```

**Table 18-28**  
**SET-ATTR possible values**

Parameter	Meaning	Possible Values
tid	Target identifier of the module to which the command is directed.	See “<TID> Target Identifier format” on page 16-4 .
aid	Access identifier of the target module or port.	See “<AID> Access Identifier format” on page 16-5.
ctag	Correlation Tag	See “<CTAG> Correlation Tag format” on page 16-4.
ntfcncde	Notification Code All notification codes are valid: CR (Critical), MJ (Major), MN (Minor), NA (Not Alarmed), NR (Not Reported).	CR MJ MN NA NR
condtype	Condition Type The type of condition whose attributes are set.	See “Conditions (alarms and events)” on page 16-6.

**Normal response**

See “Standard normal response” on page 16-3.

**Error response**

See “TL1 messages” on page 16-1.

**Error codes**

See “Error codes” on page 18-31.

## Error codes

**Table 18-29**  
TL1 error codes

Error Code	Description
ENEQ	<p>Equipage, Not Equipped – This error code is generated in response to a command if the target identified by the AID, is not equipped.</p> <p><b>Note:</b> RTRV-EQPT is a special case because the response to this command includes the state information (equipped vs. unequipped).</p>
EUNR	<p>Equipage, Unit Not Recoverable – This error code is generated if a module cannot be initiated due to a failure.</p>
IBEX	<p>Input Block, Extra – This error code is generated when an extra block is found in the command. This is recognized by accounting for the expected blocks, which are separated by colons.</p> <p>The number of expected colons depends on the command specifications in this document.</p>
IBMS	<p>Input, Block Missing – This error code is generated when a block is missing from the command. This is recognized by accounting for the expected blocks, which are separated by colons.</p> <p>The number of expected colons depends on the command specification in the GR.</p>
IDNV	<p>Input, Data Not Valid – This Error code is generated when the data format (string vs. integer) in any parameter is correct, but the value of the data itself is not valid. For example, an integer where the acceptable range is 1 through 10 and 11 is entered, or a string where the acceptable value is NEND or FEND and END is entered.</p> <p>This error code is also used for invalid combinations of parameter values.</p> <p><b>Note:</b> If the error is due to a type mismatch, the applicable error code should be IIFM.</p>
IAC	<p>Input, Invalid Access identifier – This error code is generated when the AID used in the command does not conform to any of the expected AID values.</p> <p><b>Note:</b> If the AID is invalid because the target module was unequipped, UEQ should be generated.</p>
IICM	<p>Input, Invalid Command – This error code is generated when the command is not a recognized TL1 supported command.</p>
IICT	<p>Input, Invalid Correlation Tag – This error code is generated when the CTAG in the command is not valid.</p>
IIFD	<p>Input, Invalid File Destination – This error code is generated when the command instructs the system to send a file to an inappropriate location, for example sending a ETS Switch module APP to another APP.</p>
IIFL	<p>Input, Invalid File Location – This error code is generated when the command instructs the system to send a file to an inappropriate location, for example sending the boot file to the APP destination.</p>

**Table 18-29 (continued)**  
**TL1 error codes**

Error Code	Description
IIFM	<p>Input, Invalid Data Format – This error code is generated when the data format for any parameter in the command is invalid (string vs. integer).</p> <p>If the data format is correct, but the data itself is invalid then the applicable error should be IDNV.</p> <p><b>Note:</b> This error code is also known as a type mismatch.</p>
IIFS	<p>Input, Invalid FTP Server – This error code is generated when the identified FTP server is unknown or unreachable.</p>
IIFT	<p>Input, Invalid FTTD Target – This error code is generated when the FTTD is not a valid gateway NE.</p>
IILG	<p>Input, Invalid Login – This error code is generated when FTP login information (UID or PID) is invalid.</p>
IISP	<p>Input, Invalid Syntax or Punctuation – This error code is generated when the type of syntax error does not fall into any of the other categories of input error codes. This error code works like a “catch all” code.</p>
IITA	<p>Input, Invalid Target Identifier – This error code is used when the TID value received in the command is invalid.</p>
INUP	<p>Input, Non-null Unimplemented Parameter – This error code is generated when a non-supported parameter is entered in a parameter block that is defined for another parameter.</p> <p><b>Note:</b> Non-null unimplemented parameters are represented by contiguous commas (either in between the supported positioned defined parameters or as trailing commas)</p>
IPEX	<p>Input Parameter Extra – This error code is generated when an extra parameter is provided. Extra parameters are recognized by any extra commas, which exceed the expected number.</p> <p><b>Note:</b> The expected number of commas accounts, not only for commas in between parameters in the position-defined block, but also for any trailing commas as specified in the GR.</p>
IPMS	<p>Input, Parameter Missing – This error code is generated when an expected (non-optional) position defined parameter is missing.</p>
IPNV	<p>Input Parameter Not Valid – This error code is generated when an unrecognized keyword-defined parameter is included.</p>
PICC	<p>Privilege, Invalid Command Code. The command is not executable because the user does not have the user access privileges required to issue the command.</p>

**Table 18-29 (continued)**  
**TL1 error codes**

Error Code	Description
SAAL	<p>Status, Already Allowed – This error code is generated when an ALW-MSG command is received and the specified message(s) for the target AID are already allowed. The CONDTYPE/NTFCNCDE parameter in the ALW-MSG-xx command identifies the specific message being allowed.</p> <p><b>Note:</b> This error code is not be generated if you attempt to allow a message, or group of messages, that are not inhibited. Instead, an SNVS error code is generated.</p>
SAIN	<p>Status, Already Inhibited – This error code is generated when an INH-MSG command is received and the specified message(s) for the target AID are already inhibited. The CONDTYPE/NTFCNCDE parameter in the ALW-MSG-xx command identifies the specific message being inhibited.</p> <p><b>Note:</b> This error code is not be generated if you attempt to inhibit a message, or group of messages, that are already inhibited. Instead, an SNVS error code is generated.</p>
SAIS	<p>Status, Already In Service – This error code is generated when a restore command is received and the target AID is already in an “in-service” state.</p> <p><b>Note:</b> This error code is not generated in cases where the AID specifies several units from which only a subset is already “in-service”.</p>
SAMS	<p>Status, Already in Maintenance State – This error code is generated when a remove command is received and the target AID is already in an “out-of-service” state.</p>
SAOP	<p>Status, Already Operated – This error code is generated when an “operate” command is received and the target AID is already in an “operating” state.</p>
SDBE	<p>Status Internal Data Base Error – This error code is generated when an internal database failure occurs, preventing the execution of the command.</p>
SDNR	<p>Status, Data Not Ready – This error code is generated when the data requested by any of the retrieve commands is not available.</p>
SNVS	<p>Status, Not in Valid State – This error code is generated when a command cannot be performed because a module or facility is in the wrong state.</p>
SROF	<p>Status, Requested Operation Failed – This error code is generated when the command fails to complete successfully. Failures due to other specific causes should generate either SDBE or SSTP.</p>
SRTO	<p>Status, Reply Time-Out – This error code is generated when a command is not successfully completed with a pre-set period of time.</p> <p><b>Note:</b> A module should not generate this error code when a command could not be completed within the time-out period due to a communication failure between the gateway communications module and its subtending communications module.</p>

**Table 18-29 (continued)**  
**TL1 error codes**

<b>Error Code</b>	<b>Description</b>
SSRE	Status, System Resources Exceeded – This error code is generated when there are not enough system resources to execute the command.
SSTP	Status Execution Stopped (due to hardware or software problem) – This error code is generated if a hardware or software failure occurs, which prevents the execution of the command.
SUFA	Status, Unit Failed – This error code is generated when a module cannot perform a command due to entity failure.



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## **Optical Metro 5100/5200**

### **TL1 Interface, Part 4 of 4**

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